Acknowledgements

This study was conducted with the cooperation and partnership of the Hawai'i Child and Adolescent Mental Health Division. Additionally, the author would like to gratefully acknowledge the invaluable contributions of Ryan Tolman, M.A., to every aspect of this project.
Abstract

The present study contributes to the knowledge base regarding the diversity and composition of youth problems in usual care treatment across a system of care, and provides outcome data for a broad range of treatment targets. Archival data for 790 youth between the ages of 7 and 18 ($M = 14.08$ years, $SD = 2.87$) who received intensive-in-home services through the Hawai'i Child and Adolescent Mental Health Division (CAMHD), a comprehensive state-funded mental health system, were examined. Two measures of treatment outcome were examined: highest level of progress made on the target, referred to as “level,” and number of months from first appearance of target to time of highest level, referred to as “rate.” All 48 pre-set individual therapist-identified treatment targets appearing on the Monthly Treatment Progress Summary (MTPS), a therapist-report measure designed to track service format, utilization, and practice variables were examined. Expert raters then used a coding procedure to reliably map ($k = .67$ to .90) a subsample of targets onto the four major diagnostic categories in this system of care (i.e., disruptive behavior, attentional, mood, and anxiety disorders), and treatment progress measures were compared within and across these categories. Omnibus multivariate results were significant for all comparisons, as were all subsequent univariate ANOVAs on the two dependent measures of “level” and “rate,” with the exception of the comparison of symptom targets within the ADHD group (inattention, hyperactivity). Results of the between-group comparisons indicated that, on average, disruptive behavior and mood disorder targets reached higher levels of improvement than ADHD targets ($p < .01$), with the targets associated with anxiety falling between these groups. The
anxiety-related targets improved at a significantly faster “rate” than the disruptive behaviors group ($p < .05$). For the within-diagnostic category comparisons, targets related to disruptive behavior, mood, and anxiety disorders showed significant variability in their responsiveness to treatment. For example, targets within the ADHD group did not significantly differ from one another on either “level” or “rate,” while differences between targets associated with disruptive behavior disorders emerged only on the “rate” measure. In the other two groups, significant differences were observed on both measures of treatment response. Notably, the phobias target demonstrated a significantly higher “level” of improvement than all other anxiety-related targets, and a significantly faster “rate” than the target of anxiety. Findings support the need to consider treatment outcomes at the level of individual symptoms or behavioral targets (instead of/in addition to disorder remission), as well as across diagnostic groups, in order to best understand how disorders respond to treatment. Given the high levels of comorbidity among youth receiving mental health services, such a problem- or target-based approach shows promise in furthering understanding of treatment as usual and youth treatment outcomes more generally.
# Table of Contents

Acknowledgements ................................................................................................................................................ ii  
Abstract .......................................................................................................................................................... iii  
List of Tables .................................................................................................................................................. vi  
Introduction ................................................................................................................................................... 1  
Method .......................................................................................................................................................... 12  
  Sample Characteristics ................................................................................................................................... 12  
  Measures ...................................................................................................................................................... 14  
  Procedures ................................................................................................................................................... 15  
Results .......................................................................................................................................................... 20  
  Study Aim 1: Descriptive Analysis of Treatment Targets ............................................................................. 20  
  Study Aim 2: Between-Diagnostic Group Comparison of Treatment Response ........................................... 23  
  Study Aim 3: Within-Diagnostic Group Comparison of Individual Target (as Symptom Proxy) Response ........................................................................................................................................... 24  
Discussion ...................................................................................................................................................... 27  
Appendix A: Monthly Treatment and Progress Summary Form .................................................................... 37  
Appendix B: Monthly Treatment and Progress Summary Instructions and Codebook ................................. 40  
Appendix C: Mapping Targets to DSM-IV-TR Criteria Coding Instructions and Form ............................ 52  
Appendix D: Table of Outcome Data for All 48 MTPS Treatment Targets .............................................. 65  
References ..................................................................................................................................................... 68
List of Tables

Table 1. Rates of Major Diagnostic Categories of CAMHD Youth Study Sample……………………………………………………………………………… 13

Table 2. Base Rate, Mean Progress Scores, and Standard Deviations for the 20 Most Frequently Endorsed MTPS Treatment Targets……………… 22

Table 3. Means and (Standard Deviations) for Between-Diagnostic-Group Comparisons…………………………………………………………… 24

Table 4. Means and (Standard Deviations) for Individual Targets in the Disruptive Behavior Disorders Diagnostic Group………………………… 25

Table 5. Means and (Standard Deviations) for Individual Targets in the ADHD Diagnostic Group…………………………………………………… 26

Table 6. Means and (Standard Deviations) for Individual Targets in the Depressive Disorders Diagnostic Group………………………………. 26

Table 7. Means and (Standard Deviations) for Individual Targets in the Anxiety Disorders Diagnostic Group………………………………….. 27

Table 8. Base Rate, Mean Progress Scores, and Standard Deviations for All 48 MTPS Treatment Targets……………………………………………… 65
Youth Outcomes on Therapist-Identified Treatment Targets in a System of Care

In recent decades, a movement to improve the accessibility and quality of youth mental health services has emerged. Systems of care are believed to be an effective way to achieve this goal, but evidence supporting this model has been limited. One proposed improvement to the model was integration of evidence-based interventions into service systems (Weisz, Han & Valerie, 1997). However, there are barriers to accomplishing this goal, including problems with applying findings from group-based randomized control trials to individual clients with complex problems, and with using evidence-based treatment protocols to treat youth with comorbid psychiatric diagnoses. Alternative approaches to fitting evidence-based services (EBS) and outcome study findings to the ideographic demands of actual care (thereby bridging this science-practice gap) are needed. One such approach is to examine treatment outcomes at a more specific symptom or behavioral level. Such an approach can add to the accumulating knowledge base on applying evidence-based treatment outcomes in usual care.

The current study used archival data from a youth mental health system of care to examine the amount of youth improvement on therapist-identified treatment targets, as well as the length of time it took youth to achieve these gains. Additional comparisons of these data on a subsample of targets that aligned with DSM-IV-TR diagnostic categories were conducted in order to examine for differences in treatment outcomes across and within the four most common groups of disorders in this system.
**Services in Systems of Care**

In 1982, the need for integrated services for youth with emotional and behavioral disturbances was identified (Knitzer, 1982), prompting Stroul and Friedman (1986) to propose a “system of care” model of mental health service provision. Results of the first large-scale comprehensive evaluation of this model, the Fort Bragg demonstration (Bickman et al., 1995), suggested numerous system-level advantages (e.g., increased access to care, better coordination of services, greater amount of care received), but found no significant differences in terms of individual clinical and functional outcomes in the short or long term, compared to clients seeking usual care services in the community (Bickman, Noser, & Summerfelt, 1999; Bickman, Summerfelt, & Noser, 1997).

Despite these disappointing findings, the intuitive appeal of the system of care approach endured, leading researchers to critique the weaknesses of the study, rather than the model itself. In commenting on the Fort Bragg demonstration, authors Weisz, Han, & Valeri (1997) noted that the study did little to identify or assess the specific interventions the systems of care utilized, and that the interventions used were not selected on the basis of prior empirical support. These authors criticized the decision to test a large system of care before evaluating the singular impact of the discrete interventions within it and argued for a “little science/big science” approach, in which research efforts are first directed at identifying evidence-based treatments for an array of youth problems, then focused on integrating treatments into a multi-component system of care. Though the authors voiced a valid criticism, the simplicity
of their proposed solution belies the complex and controversial history surrounding the ongoing movement to transport evidence-based treatments into clinical settings.

**Evidence-Based Treatments**

For nearly two decades, evidence-based services have been available for a variety of child and adolescent mental health disorders, including those related to inattention, disruptive behavior, anxiety, and mood difficulties. In meta-analyses of youth treatment outcome studies, EBSs have demonstrated impressive effect sizes, both when compared broadly to other treatment conditions (.54) and more narrowly, to the active treatment alternative of “usual care” practices (.30 at posttreatment, .37 at follow-up; Weisz, Jensen-Doss, & Hawley, 2006; Weisz, Weiss, Han, Granger, & Morton, 1995). However, despite research that clearly suggests evidence-based services are associated with more favorable youth outcomes, they have yet to become standard practice in community-based care. Although a thorough review of the challenges to disseminating EBSs is beyond the scope of the present discussion, this topic has been extensively debated in the literature (e.g., Persons & Silberschatz, 1998; Westen, Novotny, & Thompson-Brenner, 2004). A recurring theme to this dialogue is that research which relies on the categorical nosology of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) does not adequately capture the diverse presentation of youth psychopathology in clinical settings, thereby making the ready application of outcome study findings to real-world practice difficult.

**Outcome Research in the Context of a Categorical Model**

Since 1980, when the third edition of the DSM was published (DSM-III; APA, 1980), client problems have been predominantly conceptualized using a
categorical approach to making diagnostic decisions. The application of a descriptive, categorical framework to psychopathology was designed to make assessment, treatment planning, and communication between service providers less cumbersome by providing explicit, behaviorally-based guidelines for identifying a broad spectrum of emotional disturbances. Because this model affords increased diagnostic reliability and facilitates the identification of homogenous clinical populations, evidence-based treatment outcome studies have historically examined the impact of a given intervention on clients who meet criteria for a targeted DSM disorder. However a categorical approach to mental health, such as the DSM, does not encompass the full range of client problems therapists are confronted with in actual care. Some authors have argued that outcome studies focused predominantly on categorical diagnoses have limited clinical utility in real-world practice (e.g., Clark, Watson, & Reynolds, 1995; Weisz, Donenberg, Han, & Weisz, 1995; Widiger & Samuel, 2005). Though the DSM was not intended by its authors to serve as an exhaustive catalog of client concerns, by restricting EBS research to diagnoses found in the manual, it has essentially treated it as such, placing undue limitations on the applicability of study results.

The categorical DSM model on which EBSs are based is not sufficiently sensitive to idiographic presentations of client problems. Research on clinical populations suggests that 30% to 50% of actual care clients seek treatment for concerns that do not have a specific place in the current categorical system of psychopathology, such as grief, low self-esteem, or relationship difficulties (Howard et al., 1996). Clients may also present with symptoms that are impairing enough to
warrant intervention, yet fall below the criteria of formal DSM diagnoses (Clark et al., 1995; Widiger & Samuel, 2005), such as combined anxious and depressed symptoms (Zinbarg et al., 1994) or prodromal bipolar disorder (Biederman, 1998). When only at-threshold client problems are examined, potentially valuable information about symptom diversity across multiple domains is lost (Brown & Barlow, 2005). In outcome studies, this loss of information is tolerable because study participation is the only treatment planning variable individual differences may impact. In community practice, however, multiple areas of client concern that may or may not fit a DSM diagnosis are considered during case formulation and treatment planning.

Excessive reliance on the DSM to focus research efforts is also problematic because the widespread occurrence of comorbidity suggests this model is not a sufficiently valid representation of the true nature of psychopathology (Maj, 2005; Meehl, 2001). Comorbidity rates ranging from 45% in a nationally representative community sample (Kessler, Chiu, Dernler, & Walters, 2005) to over 70% in clinically referred populations have been observed (Clark et al., 1995; Nottlemann & Jensen, 1995). In youth, comorbidity rates in the range of 70% have been reported (Daleidan & Higa-McMillan, 2007). Given that comorbidity is so widespread, there is a need to examine how co-occurring problems impact treatment response. Though no reliable understanding or consensus on the relationship between comorbidity and treatment outcomes has yet emerged, studies to-date suggests that comorbid clients might respond to treatment differently than clients with “pure” disorders (Clark et al., 1995; Kessler et al., 2005), and that there may be an interaction effect between
treatments designed to address a particular disorder and the symptoms of concurrent conditions (Borkovec, Abel, & Newman, 1995). It will be important to further explore these relationships in order to develop a more sophisticated understanding of the nature of mental health pathology, as well as to design increasingly effective treatment that can be tailored to meet the needs of individual clients. However, this research is difficult to conduct using a methodology that adheres to DSM decision rules and diagnoses because interrelatedness between co-occurring problems are not easily examined (Helzer, Kraemer, & Krueger, 2006; Westen et al., 2004).

Additionally, as demands for therapists to utilize evidence-supported interventions have increased from policy makers, third-party payers, and mental health consumers, so has the need for outcome measures that more closely resemble the improvement indices commonly utilized in actual care. Outcome data such as score changes on an assessment measure or the proportion of clients who no longer meet DSM diagnostic criteria bear little relation to the dimensional (e.g., no/some/significant improvement in functioning) or qualitative (e.g., quality of life satisfaction; improved interpersonal/occupational functioning) indicators clinicians typically use to describe client improvement (van Os et al., 1996; Widiger & Samuel, 2005). Thus, there is a need for an alternate or supplementary system that is capable of empirically quantifying symptom diversity, as well as measure the extent to which concurrent symptoms moderate the effects of treatment (Helzer et al., 2006; Kraemer, Lowe, & Kupfer, 2005). Focusing on the specific symptoms or problems experienced by youth receiving services may help overcome some of these difficulties, and would
allow for a stronger linkage of treatment outcomes research to practices and outcomes in usual care.

**Treatment Targets as an Alternate Approach to Studying Evidence-Based Services**

One barrier to the dissemination of EBSs has been the problem of excessive numbers of treatment manuals for therapists to feasibly acquire and learn to administer competently (see e.g., Westen et al., 2004). To address this issue, Chorpita, Daleidan, & Weisz (2005) proposed coding treatment manuals for youth into a relatively small number of common underlying intervention strategies, referred to as “components” or “practice elements,” which can more reasonably be learned and flexibly applied in varying configurations to suit a client’s individual needs.

An analogous challenge exists regarding diagnoses and specific symptoms or target behaviors. Just as manuals are composed of several practice element “units,” diagnoses are similarly composed of several individual symptom criteria. A disorder may therefore be broken down into a collection of behavioral units (i.e., symptoms) that together form the syndrome or disorder. Non-disordered (e.g., low self-esteem) or nonspecific (e.g., rapport building) areas of clinical focus may also be viewed as individual problem “units.” Aggregated together, these areas of client concern may be conceptualized as behaviors that are targeted for change in treatment. In actual care practice, treatment is typically focused on using intervention techniques to alter specific emotional, behavioral, and cognitive symptoms that characterize a given disorder (as opposed to treating the disorder as an undifferentiated whole). Thus, behaviors targeted for treatment may serve as a proxy for individual symptoms, and
progress on specific treatment targets may be considered analogous to symptom reduction. By breaking clinical problems down into “treatment targets” and analyzing their individual responses to therapy, outcome research applicability can be increased while many of the strengths of using the DSM system are retained.

The treatment target approach to outcome research allows for more precise prevalence estimates to be collected for a greater diversity of clinical problems, including those that cut across or fall outside of diagnostic boundaries. Practitioners and researchers may assemble client problem profiles that are more accurate and representative of the problems encountered in actual care. Comprehensive, valid information on the diversity and composition of real world client problems could provide researchers, funding agencies, and policy makers with a better understanding of the gaps in treatment research and guide research efforts towards prevalent problems that have thus far been overlooked in the literature.

With regard to outcomes, treatment response that is measured at the target level can provide information on the specific mechanisms of treatment effectiveness by elucidating precisely which aspects of a disorder do and do not respond to a given intervention. For example, a treatment may appear to be highly effective at treating a disorder when outcomes are measured at the overall diagnostic level, when in fact large gains in one area are obscuring the relative lack of gains in other related areas of dysfunction. By examining treatment response at the level of targeted symptoms, additional treatment efforts can be directed towards poorly responding targeted areas, thereby improving overall treatment effectiveness. The target-level approach also allows for the examination of chronological or hierarchical patterns of treatment
response (e.g., if improvement in one symptom consistently precedes improvement in another). Most importantly, the impact of concurrent problems on treatment response (and, conversely, the impact of treatment on comorbid symptom improvement) to be more readily examined with the target-level approach.

In addition to these advantages, comparisons at the level of diagnosis are also retained in this approach. A collection of targets may be clustered into any number of theoretically related categories (e.g., specific disorders, internalizing/externalizing), and hypothesized models of pathology tested by examining symptom concurrency rates or treatment response patterns across families of targets. For instance, there is a clinical and theoretical assumption that internalizing problems respond to treatment more favorably than externalizing symptoms because, relative to those who display externalizing behaviors, those with internalizing symptoms experience a higher level of subjective distress are therefore more motivated to change their behavior. Some circumstantial support for this view can be found in the literature. A study on youth outcomes found that youngsters with disruptive behavior disorders improved at slower rates across their enrollment in a system of care than those without any disruptive behavior diagnoses (Mueller, Tolman, Higa-McMillan, & Daleiden, 2010). Similarly, in a large-scale review of the child treatment literature, effect sizes for treatments targeting externalizing disorders were observed to be smaller than for those targeting internalizing disorders (Chorpita & Daleiden, 2007). However, direct cross-category comparisons of differential treatment response are lacking, and are needed in order to test the assumption that these disorders do, indeed, differ in their relative response to treatment.
Current Study

The current study aimed to contribute to the knowledge base on youth outcomes in a system of care by examining archival data regarding the level and rate of client change on therapist-identified treatment targets. In addition, consistent with the target-level approach to outcome research described above, a subgroup of targets in this study served as proxies for individual symptoms of the four most common DSM disorders encountered in this system of care. Level and rate of client progress on these specific treatment targets were compared and considered to be an analog measure of symptom reduction.

Treatment target improvement was examined using therapist-reported monthly progress ratings for all targets endorsed in a youth clinical sample. These progress ratings were obtained from the Monthly Treatment Progress Summary (MTPS) (CAMHD, 2003), an empirically-derived “checklist” of intervention targets and practices that serves as a common metric community therapists use to report treatment practices, treatment targets, and progress towards treatment goals. Outcome data parameters were limited to a minimum of 90 days treatment exposure, with a maximum of 180 days (data beyond this point were not examined). The purpose of restricting outcome data to the first 3 to 6 months of treatment was to provide sufficient time to observe client response to treatment, while reducing variability and error introduced by protracted treatment episodes. This is consistent with the findings of a longitudinal study by Manteuffel, Stephens, and Santiago (2002), in which it was observed that youth in a system of care experienced the largest decline in functional impairment within the first 6 months following intake. Furthermore, these parameters
facilitate the comparison of study results to those in the evidence-based literature (in which treatment typically does not exceed 16 sessions).

Study aim 1 was to describe the base rate, highest progress rating, and length of time to reach highest progress rating for each of the 48 targets appearing on the MTPS. Study aim 2 examined the question “Do disorder-related targets differ in their overall responsiveness to treatment?” by comparing treatment outcome measures in a subsample of youth who were grouped into one of four diagnostic categories (disruptive behavior, attentional, depressive, and anxiety disorders) based on the relative distribution of targets in their treatment episode. Lastly, study aim 3 addressed the question “Do targets (as symptom proxies) within each of the disordered groups improve at differential rates?” by comparing outcome measures for a second subsample of data, in which a single target was selected for every youth who had one or more targets in the diagnostic area of interest. In order to determine target alignment with diagnostic groups, two graduate student raters used a coding procedure to match all MTPS treatment targets to DSM-IV-TR diagnostic criteria (or into a single “unmatched” category). Data for targets that reliably mapped onto symptom criteria for one of the four disordered categories was used to conduct the planned comparison in study aims 2 and 3.

As the author could locate no studies comparing symptom/target treatment response within or across diagnostic categories, the present study made no prediction about the direction of findings. However, given that at least one study on youth in this system of care found that treatment effect sizes were smaller for youth with a disruptive behavior disorder (Mueller et al., 2010), it was surmised that targets
associated with disruptive behavior disorders may demonstrate a lower and/or slower response to treatment relative to those aligned with internalizing problems (e.g., mood disturbance, anxiety).

Method

Sample Characteristics

Archival data based on all youth between the ages of 7 and 18 who procured services in the Hawai‘i Child and Adolescent Mental Health Division (CAMHD), a comprehensive state-funded mental health system, from July 1, 2006 to June 30, 2008 were retrieved from the CAMHD Management Information System (CAMHMIS) database. Youth were included in the study sample if they had a treatment episode of a minimum of 90 days duration (to ensure sufficient exposure to treatment), received care at the intensive in-home or community-based outpatient level, and had one or more valid MTPS. A “valid” MTPS was defined as having one or more progress rating scores for at least one identified treatment target. Of the 4,457 MTPS initially obtained, 59 (1.3%) were deemed invalid. To address study questions, the dataset was then restricted to include progress ratings for only the first 180 days of treatment, resulting in a final dataset of 4,057 MTPS.

The final sample included 790 youth with a mean age of 14.08 (SD = 2.87). Of these youth, 65.6% were male and 34.4% were female. For the 721 youth for whom racial information was available, 464 (57.7%) were identified as multiracial, 93 (11.7%) as Caucasian, 72 (9.0%) as Native Hawaiian or other Pacific Islander, 71 (8.9%) as Asian, 13 (1.6%) as African-American, 12 (1.5%) as “Other,” and 4 (.5%) as American Indian or Alaskan Native.
Information regarding major diagnostic categories at intake is summarized in Table 1. Comorbidity was present in 73.5% of youth, with the average number of diagnoses being 2.2 ($SD = .91$). Sample demographic and diagnostic information were similar to data reported elsewhere for the CAMHD system (McMillian-Higa, Kimhan, Daleiden, & Plonsky, 2008); thus these data appear to represent an unbiased sample of this population.

Table 1. 
Rates of Major Diagnostic Categories of CAMHD Youth Study Sample

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Primary</th>
<th>Anya</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$n$</td>
<td>% Avail</td>
</tr>
<tr>
<td>Adjustment</td>
<td>49</td>
<td>6.2</td>
</tr>
<tr>
<td>Anxiety</td>
<td>74</td>
<td>9.3</td>
</tr>
<tr>
<td>Attention</td>
<td>134</td>
<td>17.0</td>
</tr>
<tr>
<td>Disruptive Behavior</td>
<td>256</td>
<td>32.4</td>
</tr>
<tr>
<td>Mental Retardation</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mood</td>
<td>179</td>
<td>22.7</td>
</tr>
<tr>
<td>Pervasive Developmental</td>
<td>9</td>
<td>1.1</td>
</tr>
<tr>
<td>Psychotic Spectrum</td>
<td>16</td>
<td>2.0</td>
</tr>
<tr>
<td>Substance-Related</td>
<td>29</td>
<td>3.7</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>32</td>
<td>4.1</td>
</tr>
<tr>
<td>Deferred</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td>Not Available (% Total)</td>
<td>11</td>
<td>1.4</td>
</tr>
<tr>
<td>Multiple Diagnoses</td>
<td>581</td>
<td></td>
</tr>
<tr>
<td>Avg. Number of Diagnoses</td>
<td>2.2</td>
<td></td>
</tr>
</tbody>
</table>

aDue to comorbidity, these data exceed 100%

The sample consisted primarily of those classified as receiving “intensive in-home services” ($n = 783; 99.1$%), though a small number were classified as “outpatient” ($n = 7; 0.9$%). The mean episode length (in days) was 228.7 ($SD = 132.5$), with a range of 788 days (90 minimum, 878 maximum). The median episode length was 188.0 days.
Measures

Monthly Treatment and Progress Summary (MTPS). The MTPS (CAMHD, 2003) is a therapist-report measure designed to track service formats and settings, treatment targets, clinical progress ratings, outcome measures, intervention strategies, and client medication use on a monthly basis at the individual client level (See Appendices A and B for a copy of the MTPS form and codebook, respectively). This study focused on treatment targets and their corresponding progress ratings.

On the MTPS, therapists may indicate up to 10 targets (from a list of 48 predefined targets) that were the focus of treatment during the reported month. Therapists then rate the youth’s degree of improvement on each target relative to his or her baseline at the time the target began to be addressed in treatment using a 7-point scale ranging from <0% improvement (deterioration) to 100% improvement on that target. Since July 1, 2006 each service provider in the CAMHD system has been required to complete an MTPS monthly for each client. Data is collected statewide and entered into the Child and Adolescent Mental Health Management Information System (CAMHMIS) through the established operating procedures of Hawai’i’s seven regional Family Guidance Centers (FGCs).

Previous analyses of the MTPS treatment targets in CAMHD’s 2004 Annual Evaluation Report (Daleidan, Lee, & Tolman, 2004) found preliminary support for the convergent and discriminant validity of the MTPS. Specifically, a MANOVA comparison revealed that target selection was significantly related to the youth’s diagnoses at intake ($p < .01$), and targets that were theoretically unrelated to the youth’s primary diagnosis were endorsed at significantly lower rates than would be
expected if target selection was independent of primary diagnosis. With regard to the reliability of the MTPS, Nakamura, Daleidan, and Mueller (2007) examined target stability across time, and found that between one-half and two-thirds of treatment targets remained stable from intake to time points three, six, and nine months later. Moderate overall stability for targets after one \((k = .66)\) and three \((k = .52)\) months was observed. Together, findings from these two reports provide preliminary support for the overall validity and reliability of MTPS treatment targets.

Previous research also supports the validity of the progress ratings as an idiographic measure of client progress over time. Nakamura et al. (2007) found that therapist progress rating scores on the MTPS were correlated with scores on two other measures of client outcome completed by the youth’s case manager. A slightly larger effect size for the MTPS, relative to the other two measures of client improvement, was observed, which the authors suggested may be due to the greater client specificity of the MTPS. Overall, the MTPS clinical progress ratings were sensitive to client change, and Nakamura et al. (2007) endorsed the ratings as a unique and valid source of information regarding treatment response.

**Procedures**

**Mapping treatment targets onto DSM-IV-TR symptom criteria.** Two graduate student raters coded MTPS treatment targets for their relatedness to symptom criteria for the four classes of DSM-IV-TR disorders examined in this study (i.e., disruptive behavior, attention, mood, and anxiety) (APA, 2000). In order to prevent data for the same target from being used in more than one comparison group during subsequent analyses, coders were instructed to assign all targets to the single
category they judged them to be most closely associated with, based on the diagnostic criteria specified in the DSM-IV-TR and target descriptions in MTPS training materials (CAMHD, 2003; see Appendix B).

Inter-rater agreement (calculated using Cohen’s kappa coefficient; Cohen, 1960) across the four diagnostic categories of interest ranged from $k = .67$ (depressive disorders) to $k = .90$ (anxiety disorders), indicating “good” to “excellent” agreement (Fleiss, 1981). Of the 48 targets reviewed, 19 were reliably coded (i.e., both coders agreed) as “present” in one the four diagnostic categories, 26 were reliably coded as “absent,” and 8 were indicated to be “present” by only one of the coders. These 8 targets were subsequently examined, and retained only if their definition very closely matched at least one symptom criteria for one (or more) of the disorders within the four diagnostic categories of interest (as judged by the author). This procedure resulted in 4 targets being retained, and 4 being excluded from consideration for subsequent between- and within-diagnostic group comparisons.

The final groupings included 9 targets related to disruptive behavior (Aggression, Anger, Firesetting, Oppositional/Non-compliance, Runaway, School Refusal/Truancy, Willful Misconduct), 2 related to inattention/hyperactivity (Attention Problems, Hyperactivity), 7 related to depressive disorders (Activity Involvement, Contentment/Enjoyment/Happiness, Depressed Mood, Low Self-Esteem, Positive Thinking/Attitude, Sleep Disturbance, Suicidality), and 5 related to anxiety disorders (Anxiety, Avoidance, Phobias/Fears, Shyness, Traumatic Stress).

**Data capture and analyses.** MTPS information was extracted from the CAMHMIS database using Microsoft Access software, and exported into SPSS
(Version 17.0) for organization and statistical analysis. Specific information captured included: a) demographic information (i.e., age at treatment initiation, race, ethnicity, gender), b) DSM-IV-TR diagnoses at treatment initiation, c) service utilization information (e.g., referral and discharge dates, service dates, treatment setting, service provider agency), and d) monthly clinical progress ratings for endorsed targets. To protect patient confidentiality and to conform to HIPAA guidelines, a de-identified dataset was used to answer study questions. This study was approved by the University of Hawai‘i at Mānoa Committee on Human Studies Institutional Review Board and the Hawai‘i Child and Adolescent Mental Health Division.

In order to determine the base rate of each treatment target in the sample, targets were designated as “present” or “absent” for every MTPS. Any treatment target included once or more during the identified treatment episode was considered “present” and included in subsequent analyses. Two measures of target improvement were calculated using progress rating data: one identifying the highest level of treatment response an individual achieved on each endorsed target within their treatment episode (based on therapist ratings on the 7-point scale), and one calculating the length of time a youth to reach that level (i.e., the difference between the first MTPS month (1 to 6) a treatment target is addressed and the month in which the youth attains his or her own maximum level of improvement). These will hereafter be referred to as measures of “level” and “rate” of treatment progress, respectively.

Research question 1 focused on reporting base rates of provider-selected treatment targets and their outcomes; descriptive analyses were conducted on the full
data set, which included multiple targets for the same client. To address research questions 2 and 3 (which included only those targets associated with the four diagnostic groups, as determined by the target-mapping procedure described above), low base-rate targets (defined as being endorsed by less than 5% \( n < 40 \) of the sample) were eliminated from analyses due to insufficient power. Consequently, 4 of the 23 targets were ruled out, including Firesetting \( (n = 4) \), Sexual Misconduct \( (n = 31) \), Sleep Disturbance \( (n = 26) \), and Shyness \( (n = 23) \). Youth with no progress ratings for any of the remaining 19 targets were eliminated from the dataset. This resulted in 10 youth being removed, leaving a final \( n \) size of 780 for these comparison.

To meet the assumption of independence needed to conduct multivariate analyses of variance for study aims 2 and 3, dependencies were eliminated using a diagnostic group (for question 2) or target (for question 3) assignment procedure that resulted in each youth being represented by a single data point. For the between-group comparisons in study question 2, youth were assigned to a single diagnostic category (i.e., disruptive behavior, ADHD, depressive disorder, or anxiety) believed to represent their primary area of treatment focus based on the relative composition of their endorsed treatment targets. This was determined by calculating the ratio of the youth’s number of endorsed targets to the number of possible targets in each of the four categories. The youth was then assigned to the category corresponding to the highest relative ratio, and progress ratings for all targets within that category were averaged. When the ratios were identical for multiple diagnostic categories \( (n = 44; 5.6\%) \), youth were randomly assigned to one of those groups.
To answer study question 2, a between-subjects multivariate analysis of variance (MANOVA) with four levels of a single independent variable (i.e., diagnostic group assignment) and two dependent variables (i.e., “level” and “rate”) was conducted to examine for the presence of diagnostic group differences in the mean progress scores on targets aligned with each respective category. Following the overall MANOVA, univariate ANOVAs were completed on each dependent measure, and a post hoc Hochberg’s GT2 test was used to identify specific pair-wise differences between the four diagnostic categories. Hochberg’s GT2 is similar to Tukey’s honestly significant difference test, but the critical values are based on the studentized maximum modulus distribution instead of the studentized range, and is appropriate when large group size differences exist (Hochberg & Tamhane, 1987).

To address study question 3, which focused on within-diagnostic group comparisons of target outcomes, a single target from each diagnostic group with an endorsement rate of greater than zero was selected for each participant. All targets were randomly selected, with the exception of Suicidality (in the Mood category), which was oversampled due to the fact that its endorsement rate ($n = 44$) closely approached the base rate cutoff point of 5% ($n \geq 40$). Endorsement rates in both the subsample and the original parent sample were plotted and compared. A visual inspection of these two graphs confirmed that the relative distribution of targets in this subsample closely matched that of the parent sample, and thus the subsample was not unduly biased. The youth’s “level” and “rate” of improvement on this single target served as their data point for within-diagnostic group comparisons of target (as symptom proxy) response to treatment. Once each youth had a single target selected
for each of the diagnostic groups in which they had at least one target endorsed, four individual between-subjects MANOVAs (one for each diagnostic group) were conducted to examine for differential target response, using between two to seven levels of a single independent variable (i.e., number of targets within the diagnostic group) and two dependent variables (i.e., “level” and “rate”).

Results

Study Aim 1: Descriptive Analysis of Treatment Targets

The number of unique therapist-identified treatment targets in the first 180 days of treatment ranged from 1 to 25 per youth, with $M = 11.16$ ($SD = 4.87$) and mode = 10. The mean number of MTPS per youth was 5.14 ($SD = 1.47$), with 15.8% of the sample having more than 6 MTPS ($max = 12$) due to multiple providers. On average across the sample, 56.82% of the targets chosen during a youth’s treatment episode aligned with a diagnostic group (as identified in the target-mapping procedure). Consistent with the high prevalence of disruptive behavior (52.4%) and mood (36.6%) disorders present in the CAMHD population, the most frequently endorsed diagnostically-aligned targets were oppositional behavior (71.5%), activity involvement (66.2%), anger (64.3%) and aggression (47.9%). The most commonly endorsed targets that did not map onto a disordered group included positive peer interaction (83%) and academic achievement (41.9%).

The base rate, as well as means and standard deviations for “level” and “rate” to improvement for the 20 most frequently endorsed targets are presented in Table 2. (See Appendix D for an expanded table containing these data for all 48 targets). As
can be seen in this table, the grand mean for “level” of improvement was 3.10 \((SD = 0.42)\), and for “rate” of improvement was 2.70 \((SD = 0.58)\). As a reminder, “rate” is a measure of the length of time, in units of 30 days (i.e., one MTPS form) that it takes for a youth to reach their highest progress rating on that target. The two measures of treatment improvement were significantly correlated, \(r = .66, p \text{ (one-tailed)} < .001\).

While treatment engagement demonstrated the highest mean level of improvement \((M = 3.75, SD = 1.54)\), many of the most frequently endorsed targets also demonstrated the high progress ratings, including activity involvement \((M = 3.64, SD = 1.50)\), positive peer interactions \((M = 3.62, SD = 1.32)\), and aggression \((M = 3.61, SD = 1.40)\). However, these same three targets were among those that took the longest “rate” to achieve their maximum level of treatment improvement, with positive peer interaction having the slowest \((M = 4.00, SD = 1.79)\), followed by activity involvement \((M = 3.69, SD = 1.86)\), and then aggression \((M = 3.53, SD = 1.91)\).
Table 2.
*Base Rate, Mean Progress Scores, and Standard Deviations for the 20 Most Frequently Endorsed MTPS Treatment Targets (Ordered by n Size)*

<table>
<thead>
<tr>
<th>Treatment target</th>
<th>n</th>
<th>%</th>
<th>Highest Level</th>
<th>Rate to Highest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>n</td>
<td>M (SD)</td>
</tr>
<tr>
<td>Oppositional Behavior</td>
<td>565</td>
<td>71.5</td>
<td>3.53</td>
<td>[3.42, 3.64]</td>
</tr>
<tr>
<td>Activity Involvement</td>
<td>523</td>
<td>66.2</td>
<td>3.64</td>
<td>[3.51, 3.77]</td>
</tr>
<tr>
<td>Anger</td>
<td>508</td>
<td>64.3</td>
<td>3.44</td>
<td>[3.33, 3.55]</td>
</tr>
<tr>
<td>Aggression</td>
<td>378</td>
<td>47.9</td>
<td>3.61</td>
<td>[3.47, 3.75]</td>
</tr>
<tr>
<td>Academic Achievement</td>
<td>331</td>
<td>41.9</td>
<td>3.37</td>
<td>[3.19, 3.54]</td>
</tr>
<tr>
<td>Depressed Mood</td>
<td>325</td>
<td>41.1</td>
<td>3.35</td>
<td>[3.21, 3.50]</td>
</tr>
<tr>
<td>Self-Injurious Behavior</td>
<td>318</td>
<td>40.3</td>
<td>3.10</td>
<td>[2.94, 3.26]</td>
</tr>
<tr>
<td>Anxiety</td>
<td>312</td>
<td>39.5</td>
<td>3.12</td>
<td>[2.97, 3.28]</td>
</tr>
<tr>
<td>Contentment/Happiness</td>
<td>311</td>
<td>39.4</td>
<td>3.61</td>
<td>[3.47, 3.74]</td>
</tr>
<tr>
<td>Positive Thinking/Attitude</td>
<td>302</td>
<td>38.2</td>
<td>3.45</td>
<td>[3.31, 3.60]</td>
</tr>
<tr>
<td>Treatment Engagement</td>
<td>295</td>
<td>37.3</td>
<td>3.75</td>
<td>[3.57, 3.92]</td>
</tr>
<tr>
<td>Peer or Sibling Conflict</td>
<td>279</td>
<td>35.3</td>
<td>3.19</td>
<td>[3.04, 3.35]</td>
</tr>
<tr>
<td>Social Skills</td>
<td>275</td>
<td>34.8</td>
<td>3.40</td>
<td>[3.24, 3.55]</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>271</td>
<td>34.3</td>
<td>2.91</td>
<td>[2.77, 3.05]</td>
</tr>
<tr>
<td>Phobias or Fears</td>
<td>224</td>
<td>28.4</td>
<td>3.35</td>
<td>[3.18, 3.53]</td>
</tr>
<tr>
<td>Attention Problems</td>
<td>207</td>
<td>26.2</td>
<td>2.97</td>
<td>[2.80, 3.14]</td>
</tr>
<tr>
<td>School Involvement</td>
<td>198</td>
<td>25.1</td>
<td>3.36</td>
<td>[3.14, 3.57]</td>
</tr>
<tr>
<td>Avoidance</td>
<td>196</td>
<td>24.8</td>
<td>2.74</td>
<td>[2.55, 2.93]</td>
</tr>
<tr>
<td>Substance Use</td>
<td>188</td>
<td>23.8</td>
<td>3.58</td>
<td>[3.31, 3.85]</td>
</tr>
<tr>
<td><strong>Grand</strong></td>
<td>790</td>
<td>100</td>
<td>3.10</td>
<td>[2.98, 3.22]</td>
</tr>
</tbody>
</table>

*Total ≠ 100% owing to multiple targets per youth. a Targets mapped to the disruptive behaviors disorders group. b Targets mapped to the mood disorders group. c Targets mapped to the anxiety disorders group. d Targets mapped to the ADHD group.*
Study Aim 2: Between-Diagnostic Group Comparison of Treatment Response

Results of this analysis were intended to help answer the question “Using groups of MTPS targets as a proxy for diagnostic symptoms, do disorders differ in their overall responsiveness to treatment?”

Raw skew and kurtosis scores, as well as visual inspection of the histograms, indicated that both the “level” and “rate” measures appeared to fall into a fairly normal distribution.\(^1\) Levene’s test and variance ratios for both measures, as well as Box’s test of homogeneity of covariance matrices, were calculated. Results indicated there was sufficient equality of variance to uphold the assumptions of homogeneity of variance and of covariance matrices.

Using Pillai’s trace, a conservative $F$ ratio that is robust to problems in the data such as unbalanced groups, there was significant difference in the “level” and “rate” of treatment improvement between diagnostic groups, $F(6,1552) = 3.40, p < .01$. Subsequent univariate analyses on the two dependent measures revealed a significant effect for both “level,” $F(3, 776) = 4.06, p < .01$ and “rate,” $F(3, 776) = 3.43, p < .05$, of treatment improvement on the diagnostic groups. As seen in Table 3, results of post hoc testing indicated that the mean highest “level” of treatment improvement for youth in the ADHD group was significantly lower than youth in both the disruptive behavior and depressive disorder groups. Results further demonstrated that youth in the anxiety group achieved therapeutic improvement at a significantly faster “rate” than youth in the disruptive behavior group.

---

\(^1\) Statistical tests of normality were not used given that they are overly sensitive to even small deviations when the $n$ size is greater than 200.
Table 3.
Means and (Standard Deviations) for Between-Diagnostic-Group Comparisons

<table>
<thead>
<tr>
<th></th>
<th>Disruptive Behavior (n = 287)</th>
<th>ADHD (n = 124)</th>
<th>Depressive (n = 270)</th>
<th>Anxiety (n = 99)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level</td>
<td>3.40 (1.20)a</td>
<td>3.04 (1.25)b</td>
<td>3.49 (1.15)a</td>
<td>3.31 (1.35)ab</td>
</tr>
<tr>
<td>Rate</td>
<td>3.45 (1.40)b</td>
<td>3.10 (1.80)ab</td>
<td>3.32 (1.40)ab</td>
<td>2.95 (1.60)a</td>
</tr>
</tbody>
</table>

Note: Within rows, means with shared superscripts do not differ at p < .05 using Hochberg’s GT2

Study Aim 3: Within-Diagnostic Group Comparison of Individual Target (as Symptom Proxy) Response

Results of these analyses helped to examine the question “Do targets within each disorder group differ in their level or rate of treatment response?”

Raw skew and kurtosis values, as well as histograms, showed that the “level” measure data fell in a fairly normal distribution for all four groups, while for the “rate” measure, a trend towards a slightly platykurtic distribution was observed. Thus the assumption of normality appeared tenable. With regard to equality of variance, Levene’s test was nonsignificant for the “rate” measure across all groups, and for the “level” measure in both the ADHD and anxiety groups; however, it was statistically significant for the disruptive behavior and depressive disorders groups. A Welch’s $F$ test (an alternative $F$ test in situations in which equality of variance is not present) was conducted on the “level” data for all four groups to examine whether the possible violation of this assumption would affect the conclusions derived from the use of an ordinary ANOVA. However, the differences in the observed $F$ and $p$ values were not substantial between the two procedures, and thus the original analysis method (i.e., MANOVA, followed by subsequent univariate ANOVAs) was retained.
Disruptive behavior disorders group. Overall MANOVA results (using Pillai’s trace) indicated a significant difference in treatment outcomes between the seven targets, $F(12, 1438) = 5.33, p < .001$. Univariate results also revealed a significant effect for both “level”, $F(6, 719) = 2.28, p < .05$ and “rate,” $F(6, 719) = 9.58, p < .001$. Despite this, post hoc testing found no significant pairwise comparisons among the targets for “level” of treatment improvement; however, several were identified for the dependent measure of “rate” (see Table 4). The targets of peer/sibling conflict and willful misconduct were both found to improve at a significantly faster rate than the targets of aggression, anger, and oppositionality. Additionally, truancy and runaway improved at a significantly faster rate than anger; runaway also improved significantly more quickly than oppositionality.

Table 4. Means and (Standard Deviations) for Individual Targets in the Disruptive Behavior Disorders Diagnostic Group

<table>
<thead>
<tr>
<th></th>
<th>Aggress. $(n=108)$</th>
<th>Anger $(n=178)$</th>
<th>Opposition. $(n=209)$</th>
<th>Peer/Sib Conflict $(n=94)$</th>
<th>Runaway $(n=35)$</th>
<th>Truancy $(n=63)$</th>
<th>Willful Misconduct $(n=43)$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level</strong></td>
<td>3.69 (1.33)</td>
<td>3.40 (1.28)</td>
<td>3.49 (1.31)</td>
<td>3.16 (1.38)</td>
<td>3.43 (2.25)</td>
<td>3.08 (1.82)</td>
<td>3.00 (1.88)</td>
</tr>
<tr>
<td><strong>Rate</strong></td>
<td>3.43$^{b,c,d}$ (1.80)</td>
<td>3.81$^d$ (1.97)</td>
<td>3.72$^{c,d}$ (1.87)</td>
<td>2.56$^a$ (1.62)</td>
<td>2.66$^{a,b}$ (1.78)</td>
<td>2.95$^{a,b,c}$ (1.99)</td>
<td>2.29$^a$ (1.79)</td>
</tr>
</tbody>
</table>

Note: Within rows, means with shared superscripts do not differ at $p < .05$ using Hochberg’s GT2.

Attention-deficit/hyperactivity disorders group. The overall MANOVA for the ADHD disorders group was nonsignificant, $F(2,227) = .44, p > .05$, indicating no meaningful difference between the targets of attention and hyperactivity on either “level” or “rate” of treatment improvement. Means and standard deviations for ADHD targets are summarized in Table 5.
Table 5.
Means and (Standard Deviations) for Individual Targets in the ADHD Diagnostic Group

<table>
<thead>
<tr>
<th></th>
<th>Attention Problems (n = 174)</th>
<th>Hyperactivity (n = 56)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level</strong></td>
<td>2.93 (1.24)</td>
<td>3.11 (1.37)</td>
</tr>
<tr>
<td><strong>Rate</strong></td>
<td>2.78 (1.89)</td>
<td>2.80 (1.90)</td>
</tr>
</tbody>
</table>

Note: Within rows, means with shared subscripts do not differ at $p < .05$ using Hochberg’s GT2

**Depressive disorders group.** There was a significant overall effect for treatment outcomes between the six targets in this diagnostic group, $F(10, 1386) = 4.61, p < .001$. Subsequent univariate analyses were significant for both “level” $F(5, 693) = 2.93, p < .05$ and “rate” $F(5, 693) = 6.28, p < .001$. As seen in Table 6, post hoc testing indicated that activity involvement achieved a significantly higher mean “level” of improvement than self-esteem. With regard to “rate,” suicidality achieved its maximum level of treatment improvement significantly faster than either the depressed mood or activity involvement targets. Contentment/happiness also improved at a significantly faster rate than activity involvement.

Table 6.
Means and (Standard Deviations) for Individual Targets in the Depressive Disorders Diagnostic Group

<table>
<thead>
<tr>
<th></th>
<th>Activity Involvement (n = 235)</th>
<th>Depressed Mood (n = 119)</th>
<th>Contentment/Happiness (n = 105)</th>
<th>Positive Thinking (n = 123)</th>
<th>Self-Esteem (n = 73)</th>
<th>Suicidality (n = 44)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level</strong></td>
<td>3.66$^a$ (1.59)</td>
<td>3.33$^{a,b}$ (1.36)</td>
<td>3.66$^{a,b}$ (1.24)</td>
<td>3.35$^{a,b}$ (1.28)</td>
<td>3.03$^b$ (1.15)</td>
<td>3.41$^{a,b}$ (2.16)</td>
</tr>
<tr>
<td><strong>Rate</strong></td>
<td>3.65$^c$ (1.82)</td>
<td>3.53$^{b,c}$ (2.09)</td>
<td>2.92$^{a,b}$ (1.76)</td>
<td>3.05$^{a,c}$ (1.93)</td>
<td>2.97$^{a,c}$ (1.95)</td>
<td>2.25$^a$ (1.73)</td>
</tr>
</tbody>
</table>

Note: Within rows, means with shared subscripts do not differ at $p < .05$ using Hochberg’s GT2
**Anxiety disorders group.** Multivariate testing revealed a significant overall effect of treatment outcomes between targets, $F(6,992) = 22.66, p < .001$. Univariate analyses were also significant for both “level,” $F(3, 496) = 35.09, p < .001$ and “rate,” $F(3, 496) = 5.43, p = .001$. As seen in Table 7, *post hoc* testing revealed that the phobias target demonstrated a significantly higher “level” of treatment improvement ($p < .001$) than the other three targets in this group: anxiety, avoidance, and traumatic stress. With regard to “rate,” the phobias target was observed to improve at a significantly faster pace than the anxiety target.

<table>
<thead>
<tr>
<th></th>
<th>Anxiety ($n = 201$)</th>
<th>Avoidance ($n = 112$)</th>
<th>Phobias ($n = 142$)</th>
<th>Traumatic Stress ($n = 45$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level</td>
<td>3.20 (1.40)</td>
<td>2.91 (1.39)</td>
<td>4.44 (1.30)</td>
<td>2.94 (1.38)</td>
</tr>
<tr>
<td>Rate</td>
<td>3.37 (1.85)$^a$</td>
<td>2.81 (1.86)$^{a,b}$</td>
<td>2.63 (1.89)$^b$</td>
<td>2.64 (1.93)$^{a,b}$</td>
</tr>
</tbody>
</table>

*Note: Within rows, means with shared subscripts do not differ at $p < .05$ using Hochberg’s GT2*

**Discussion**

The purpose of the present study was primarily two-fold. First, to obtain descriptive information regarding the base rate, highest mean progress rating, and number of months to reach the highest rating, for all 48 treatment targets appearing on the MTPS. Second, to examine a subsample of targets that were reliably judged by two raters to map onto the four most common diagnostic areas encountered in this system of care: disruptive behavior, ADHD, depressive, and anxiety disorders.
Treatment outcomes (i.e., “level” and “rate”) for these targets (which were considered roughly analogous to symptoms), were compared both across and within their respective diagnostic groups. Results of this study highlight the importance of expanding the scope of treatment outcome research to include a greater diversity of clinical problems, including those that cut across or fall outside of diagnostic boundaries, so as to obtain a more accurate and representative picture of the problems encountered in actual care. A novel methodology (i.e., examining outcomes at the level of behavioral targets, or symptoms) was used, and findings support the utility of this approach for overcoming many limitations of traditional treatment outcome research conducted in both clinical and usual care settings.

In this sample, intensive in-home care was characterized by a mean of 11 targets, showing an average progress rating (level) of 3.10 (corresponding to 31% – 50% improvement) in the first six months of treatment. A large proportion of targets endorsed (43.18%) during this treatment window fell outside the purview of the diagnostic groups, which suggests that a great deal of information regarding what is being targeted in actual care, as well as what areas may be changing in response to treatment, is lost by restricting measures of treatment outcome to diagnoses or diagnostic problem areas only.

Once a target appeared on the MTPS, it took an average of 2.7 months to reach their highest progress rating. This is consistent with previous treatment outcome research that suggests improvements occur fairly rapidly at the beginning of treatment before leveling off (Manteuffel, Stephens, & Santiago, 2002). Consistent with the most prevalent diagnoses in the CAMHD system, the most frequently endorsed
diagnostic targets were related to disruptive behavior and mood disorders; combined, they accounting for 11 (44%) of the top 20 targets. Interestingly, it was observed that several of the targets which achieved the highest levels of treatment improvement overall were among those that also took the longest amount of time to reach their highest rating. However, not all targets with a similar mean “level” of improvement required equivalent “rates” of time to achieve them. For example, the targets of runaway, school involvement, and medical regimen adherence show levels approaching those of positive peer interaction, activity involvement, and aggression, but demonstrated this improvement approximately a month sooner than the latter targets. Conversely, not all targets with a high “level” of improvement (e.g., phobias, suicidality) took a long time to reach them. This suggests that symptoms or clinical targets might differ in their levels of dose-response to treatment, and this may need to be considered when planning and implementing treatment interventions.

With regard to study question 2, “Do diagnostic groups differ in their overall responsiveness to treatment?” results of the present investigation suggest that the answer is “yes.” Specifically, it was observed that the ADHD-related targets demonstrated the lowest “level” of improvement in the first six months treatment; significantly lower than that of either disruptive behaviors or depressive disorders. These findings are consistent with the current view that ADHD symptoms are primarily driven by neurological deficits or delay. Ergo, while behavioral interventions may help manage a youth’s inappropriate behavior stemming from inattention or hyperactivity/impulsivity, their ability to affect change on the underlying dysfunction is limited.
In looking at the measure of time it takes to reach maximum treatment improvement, a significant difference between anxiety and disruptive behavior disorders was observed. These two groups demonstrated a trend towards an inverse relationship between measures of “level” and “rate,” such that disruptive behavior targets showed the greatest level of improvement, but on average took the longest to reach it (about 3.5 months). In contrast, anxiety-related targets reached their highest level the soonest (in just under 3 months), but their mean highest progress ratings were the second-lowest (better only than ADHD). This is consistent with the view that disruptive behaviors stem largely from problematic environments (and thus, can be expected to be quickly responsive to positive changes in them), whereas anxiety is a more enduring, stable, “trait”-like problem for which improvement is related to an accumulated learning history of behavioral experimentation and coping mastery.

Alternatively, it might be that anxiety related targets are focused on less in CAMHD youth, consistent with the low use of exposure for youth with a primary anxiety disorder in this system of care (Jackson, Kimhan, Daleidan, Mueller, and Ku, 2009).

The relatively slow rate of treatment improvement for disruptive behavior targets is consistent with the results of Mueller et al. 2010, who observed that youth carrying a disruptive behavior diagnosis showed a slower rate of improvement across the CAMHD system than youth with alternate disorders. However, their high level of improvement stands in contrast to the finding of Chorpita and Daleiden (2007), who conducted a large-scale review of the child treatment literature and concluded that effect sizes for interventions aimed at treating externalizing disorders were smaller than those targeting internalizing disorders. One possible explanation for this
observation is that the majority of the randomized control trials of treatment for disruptive behavior problems provide time-limited treatment, and greater improvement would be seen in longer treatment periods such as those in the system of care studied by Mueller et al.

Given the large differences in treatment response between ADHD and disruptive behavior targets, the results of the present study caution against the convention of collapsing ADHD in with disruptive behavior disorders under the umbrella of “externalizing disorders” when considering treatment and treatment response. It appears that, when studying therapy outcomes, these two disorders are distinct in their responsiveness to treatment (perhaps due to differences in their etiological and maintenance factors) and to combine them may obscure their true relationship to each other and to the interventions under study. This speaks to the need for research that examines the degree of observed (rather than theoretical) relatedness between different diagnoses subsumed under the umbrellas of “externalizing” and “internalizing” disorders.

Finally, study findings offer some interesting affirmatives to research question 3, “Do targets (as symptom proxies) within each of the disordered groups improve at differential rates?” In the disruptive behavior disorders group, the targets of peer/sibling conflict and willful misconduct improved at significantly faster rates than aggression, anger, and oppositionality; however, their maximum “level” of improvement was notably lower. Truancy followed a similar pattern, suggesting that these three targets do not tend to improve beyond the initial gains made early in treatment (at this level of care). The target of runaway, however, stood out for both its
high “level” and fast “rate” of improvement, relative to the other 6 targets in this group.

In the depressive disorders group, self-esteem demonstrated the lowest “level” of improvement during the treatment window, and was significantly different from the highest target of activity involvement. This is an interesting finding, and suggests that low self-esteem may be associated with a more severe or more treatment resistant form of depression. Alternatively, low self-esteem may be more broadly related to the feelings of shame and stigma that are often associated with having mental health concerns severe enough to warrant involvement in the CAMHD system, and thus, not uniquely related to the construct of mood disorders as intended in this study. With regard to “rate,” suicidality reached its mean highest progress rating more quickly than any other target in this group; significantly faster than either depressed mood or activity involvement. Clinically, this is encouraging, as we would expect therapists to provide decisive, proactive intervention until suicidality remits and the patient is deemed to no longer be at imminent risk for harm. The depressed mood and activity involvements targets showed the slowest rates of improvement, an observation that may inform practitioners’ treatment expectations with this population.

Lastly, among targets within the anxiety disorders group, the phobias target was distinct in both its rate and level of improvement. That phobias achieved a higher “level” of improvement than any other anxiety target, and did so at a faster rate (significantly faster than the broader target of “anxiety”), is consistent with the theoretical view of phobias as “simple” and highly responsive to treatment. However, anxiety disorders as a whole are a large and varied group, and the targets in this study
were not sufficient in number or diversity to allow for other inferences about symptom response within this diagnostic group.

This study has numerous strengths that enhance its applicability and generalizability to real-world practice. First, it examined therapy outcomes in the context of “treatment as usual” within a system of care using a large, ethnically diverse sample of youth with complex diagnostic profiles. As such, the reported findings were robust to significant variability in child- (e.g., age, diagnoses, impairment), therapist- (e.g., education, experience, theoretical approach), and agency-specific (e.g., size, leadership, geography) factors. Furthermore, outcomes were examined at the level of behavioral targets, which included clinical problems that overlap between diagnoses, are subthreshold, or are non-disordered (e.g., treatment engagement, grief). To the author’s knowledge, this is the first study to provide information (including base rates and outcome data) about which diagnostic and non-diagnostic problems community therapists target in the first six months of usual care treatment. This opens a window into the largely unknown world of treatment as usual and the clinical practitioners administering it, which researchers have historically struggled to study given the tremendous amount of variability in real-world practice factors. Lastly, the outcome measures used (i.e., level and rate of improvement) are more dimensional and more meaningful methods of assessing client improvement than those typically used in treatment research (e.g., diagnostic status, change scores on a measure). Thus, study results can more directly inform expectations for the degree, range, and timing of youth response to treatment, which in turn can guide decisions about treatment planning and resource allocation.
This study measured outcomes at the level of treatment targets (as symptom proxies), which is a novel, and arguably more valid, method for examining client change over the course of treatment. Looking at individual behavioral targets allowed for comparisons of differential “symptom” outcomes within the same diagnostic group, which provides preliminary information regarding those elements of a disorder that are more or less responsive during the first six months of treatment. Finally, this study is one of the few to compare treatment response measures across multiple diagnostic groups.

Despite the numerous advantages to this study, some notable limitations must be acknowledged. This study did not examine the impact of specific factors that may moderate treatment response (e.g., age at entry, gender, comorbidity profiles, medication usage), nor did it evaluate for how different intervention strategies (“practice elements”) also reported on the MTPS might be related to the observed findings. Additionally, while the target mapping procedure of this study demonstrated reliability, it did not preclude problems such as overlap between targets (e.g., “truancy” might be related to disruptive behavior, or to anxiety) or differing levels of specificity in target description. As this study only examined the first six months of treatment, it is possible that relative differences in treatment outcomes would change given a longer treatment window. Lastly, while Hawai’i’s population allows for access to an ethnically and culturally diverse sample, it is unclear to what extent findings from this particular system of care are generalizable to those in other states.

Further research on youth outcomes in a system of care is needed in order to replicate and extend the findings of the present study. Future studies using this dataset
could examine the relative impact of client (e.g., age, gender, race/ethnicity),
treatment (e.g., concurrent medication use, amount and type of comorbid diagnoses),
and system (e.g., agency, geography) variables on the level and rate of treatment
improvement, as well as apply different statistical procedures. For example,
longitudinal methods of analysis could be used to investigate sequential or
hierarchical treatment response patterns. Alternatively, the data could be reduced
using a factor analytic approach, then look at the relationship between the identified
factors and treatment outcomes. Lastly, given that study results offer support for the
use of a symptom-level analysis of treatment response, future research efforts could
be applied towards developing reliable and valid measures that permit this unit of
analysis, so as to better understand the nature of the disorder and how it responds to
evidence-based treatments.

Conclusion

The present study contributes to the knowledge base regarding the diversity
and composition of youth problems in usual care treatment across a system of care,
and provides treatment outcome data for a broad range of disordered and non-
disordered treatment targets. Analysis on a subgroup of targets aligned with common
disorders in this population indicated that diagnosis-related targets differ in their
relative response to treatment with disruptive behavior and mood disorders
demonstrating the highest level of treatment response (in the first six months of
treatment) and ADHD demonstrating the lowest. Results of this study also suggest
that targets (as symptom proxies) within diagnostic categories vary with regard to
their level and rate of treatment response, and support the argument for examining
treatment outcomes at the symptom or behavioral target (as opposed to diagnostic) level. If these findings are valid and replicable, they could provide researchers, funding agencies, and policy makers with a better understanding of the gaps in treatment research and guide research efforts towards prevalent problems that have thus far been overlooked in the literature.
Appendix A: Monthly Treatment and Progress Summary Form

SERVICE PROVIDER MONTHLY TREATMENT & PROGRESS SUMMARY
Child and Adolescent Mental Health Division (CAMHD)

Instructions: Please complete and electronically submit this form to CAMHD by the 5th working day of each month (summarizing the time period of 1st to the last day of the previous month). The information will be used in service review, monitoring, planning and coordination in accordance with CAMHD policies and standards.

<table>
<thead>
<tr>
<th>Client Name</th>
<th>CR #</th>
<th>DOB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month/Year of Services</td>
<td>Primary Diagnosis</td>
<td>Eligibility Status</td>
</tr>
<tr>
<td>Level of Care (one per form)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Service Format (circle all that apply):
- Individual
- Group
- Parent
- Family
- Teacher
- Other: [__________]

Service Setting (circle all that apply):
- Home
- School
- Community
- Out of Home
- Clinic/Office
- Other: [__________]

Service Dates

Targets Addressed This Month (number up to 10):
- Activity Involvement
- Contentment, Enjoyment, Happiness
- Learning Disorder, Underachievement
- Phobia/Fears
- Sleep Disturbance
- Academic Achievement
- Depressed Mood
- Low Self-Esteem
- Positive Thinking/ Attribution
- Social Skills
- Aggression
- Eating, Feeding Problems
- Mania
- Psychosis
- Speech and Language Problems
- Anger
- Empathy
- Medical Regimen Adherence
- Runaway
- Substance Use
- Anxiety
- Enuresis, Encopresis
- Oppositional/ Non-Compliant Behavior
- School Involvement
- Suicidality
- Assertiveness
- Fire Setting
- Peer Involvement
- School Refusal/Truancy
- Traumatic Stress
- Attention Problems
- Gender Identity Problems
- Peer/Sibling Conflict
- Self-Control
- Treatment Engagement
- Avoidance
- Grief
- Personal Hygiene
- Self-Injurious Behavior
- Wiltful Misconduct, Delinquency
- Cognitive-Intellectual Functioning
- Health Management
- Positive Family Functioning
- Sexual Misconduct
- Other:
- Community Involvement
- Hyperactivity
- Positive Peer Interaction
- Shyness
- Other:

Progress Ratings This Month (check appropriate rating for any target numbers endorsed above):

<table>
<thead>
<tr>
<th>#</th>
<th>Deterioration &lt; 0%</th>
<th>No Significant Changes 0%–10%</th>
<th>Minimal Improvement 11%–30%</th>
<th>Improvement 31%–50%</th>
<th>Moderate Improvement 51%–70%</th>
<th>Significant Improvement 71%–100%</th>
<th>Complete Improvement 101%–100%</th>
<th>Date (if Complete)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CR # __________________________ (please repeat the number here)

Intervention Strategies Used This Month (check all that apply):

<table>
<thead>
<tr>
<th>Activity Scheduling</th>
<th>Eye Movement, Tapping</th>
<th>Marital Therapy</th>
<th>Play Therapy</th>
<th>Stimulus or Antecedent Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assertiveness Training</td>
<td>Family Engagement</td>
<td>Medication/Pharmacotherapy</td>
<td>Problem Solving</td>
<td>Supportive Listening</td>
</tr>
<tr>
<td>Biofeedback, Neurofeedback</td>
<td>Family Therapy</td>
<td>Mentoring</td>
<td>Psychoeducation, Child</td>
<td>Tangible Rewards</td>
</tr>
<tr>
<td>Catharsis</td>
<td>Free Association</td>
<td>Milieu Therapy</td>
<td>Psychoeducation, Parent</td>
<td>Therapist Praise/Rewards</td>
</tr>
<tr>
<td>Cognitive/Coping</td>
<td>Functional Analysers</td>
<td>Mindfulness</td>
<td>Relationship or Rapport Building</td>
<td>Thought Field Therapy</td>
</tr>
<tr>
<td>Commands/ Limit Setting</td>
<td>Guided Imagery</td>
<td>Modeling</td>
<td>Relaxation</td>
<td>Time Out</td>
</tr>
<tr>
<td>Communication Skills</td>
<td>Hypnosis</td>
<td>Motivational Interviewing</td>
<td>Response Cost</td>
<td>Twelve-step Programming</td>
</tr>
<tr>
<td>Crisis Management</td>
<td>Ignoring or DRO</td>
<td>Natural and Logical Consequences</td>
<td>Response Prevention</td>
<td>Other:</td>
</tr>
<tr>
<td>Directed Play</td>
<td>Insight Building</td>
<td>Parent Coping</td>
<td>Self-Monitoring</td>
<td>Other:</td>
</tr>
<tr>
<td>Educational Support</td>
<td>Interpretation</td>
<td>Parent Monitoring</td>
<td>Self-Reward/ Self-Praise</td>
<td>Other:</td>
</tr>
<tr>
<td>Emotional Processing</td>
<td>Line of Sight Supervision</td>
<td>Parent Praise</td>
<td>Skill Building</td>
<td></td>
</tr>
<tr>
<td>Exposure</td>
<td>Maintenance or Relapse Prevention</td>
<td>Peer Modeling or Paring</td>
<td>Social Skills Training</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Psychiatric Medications (List All)</th>
<th>Total Daily Dose</th>
<th>Dose Schedule</th>
<th>Check if Change</th>
<th>Description of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Projected Discharge Date: __________ □ Check if Discharged During Current Month

IF YOUTH WAS DISCHARGED THIS MONTH, PLEASE COMPLETE ITEMS A & B:

A. Discharge Living Situation (check one):
□ Home  □ Foster Home  □ Group Care  □ Residential Treatment
□ Institution/Hospital  □ Jail/Correctional Facility  □ Homeless/Shelter  □ Other: __________

B. Reason(s) for Discharge (check all that apply):
□ Success/Goals Met  □ Insufficient Progress  □ Family Relocation
□ Runaway/Elopement  □ Refuse/Withdraw  □ Eligibility Change  □ Other: __________

CANHD Provider Monthly Summary – Revised 11-16-2005
Page 2 of 3
CR # ______________________ (please repeat the number here)

**Outcome Measures**: Optional. If you have any of the following data, please report the most recent scores:

<table>
<thead>
<tr>
<th>Measure</th>
<th>Formula</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASII/CALOCUS (Total)</td>
<td>CASII/CALOCUS (Level of Care)</td>
<td></td>
</tr>
<tr>
<td>CBCL (Total Problems T):</td>
<td>CBCL (Internalizing T):</td>
<td>CBCL (Externalizing T):</td>
</tr>
<tr>
<td>YSR (Total Problems T):</td>
<td>YSR (Internalizing T):</td>
<td>YSR (Externalizing T):</td>
</tr>
<tr>
<td>TRF (Total Problems T):</td>
<td>TRF (Internalizing T):</td>
<td>TRF (Externalizing T):</td>
</tr>
<tr>
<td>Arrested During Month? (Y/N)</td>
<td>School attendance (% of days)</td>
<td></td>
</tr>
</tbody>
</table>

**Comments/Suggestions**: (attach additional sheets if necessary)

---

Provider Agency & Island: __________________________ Clinician Name and ID#: __________________________

Provider Supervisor Signature: __________________________ Clinician Signature: __________________________

Submitted to CAMHD (date): __________________________ Care Coordinator: __________________________
Appendix B: Monthly Treatment and Progress Summary Instructions and Codebook

DOH Child and Adolescent Mental Health Division
Instructions and Codebook for Provider Monthly Treatment and Progress Summary

The instructions and codebook are to be used in conjunction with the CAMHD Service Provider Monthly Treatment and Progress Summary form. This codebook defines the numerous terms and possible responses necessary to accurately complete the form. For questions regarding these definitions or the use of the Monthly Treatment and Progress Summary, please contact the Clinical Services Office at 733-9349.

Instructions

Please complete and electronically submit to CAMHD the Monthly Treatment and Progress Summary by the 5th working day of the month. The summary should pertain to the previous month’s services. This form should be completed by the clinician who is most familiar with the current status of the youth and family and with the services provided during the month. When necessary, the responding clinician should gather information from other provider team members to assure the most accurate description possible. Once completed by the clinician, the form should be reviewed and signed by a qualified supervisor.

At the top section, please write the Client Name, CR Number, Date of Birth (DOB), Home School, School Complex, Eligibility Status [i.e., Educationally Supportive (IDEA), Support for Emotional and Behavioral Development (SEBD), Mental Health Only], Primary Diagnosis, Level of Care, and Month/Year of Services. The Month/Year of Services refers to the month in which the service was provided, not the date the Monthly Provider Summary was completed. For example, if the report is submitted in the first week of June, the Month/Year of Services would read “May,” because the services were delivered in May. For youth receiving more than one level of care during the month, please complete a separate form for each.

Under Service Format, please indicate whether services were delivered in the following manner (more than one format can be selected):

- Individual – Working with youth directly
- Group – Working with youth along with other youths receiving services
- Parent – Working directly with parents or caretakers, with youth not present
- Family – Working with parents or caretakers and youth together. Can include other family members
- Teacher – Working with a teacher directly
Other – Another format not specified above; please write description

Under Service Setting, please note whether services were delivered in the following locations (more than one setting can be selected):

Home – Working with youth or family members in the youth’s home
School – Working with youth or professionals in the youth’s educational setting, other than in the context of an IEP/MP meeting
Community – Working with youth or others in the youth’s community/neighborhood
Out of Home – Working with the youth or family in a residential facility
Clinic/Office – Working with the youth or family in a clinical office
Other – Another setting not specified above; please write description

For Service Dates, please provide the dates for each service provided during that month. If additional space is required, please continue writing dates in the area below the boxes provided. If the service was provided out of home (i.e., continuously), please provide start and end dates for that month’s services and put the word “to” in between in one of the boxes.

Targets

Targets are the strengths and needs being addressed as part of the mental health services for that youth.

When completing the Targets Addressed This Month, please put numbers (1, 2, 3…) rather than checkmarks (X, ✓) to the left of each target addressed. This is so that progress ratings in the next section can be attached to each target. For example, if “Academic Achievement” was targeted, place a “1” in the box to the left of that target on the form. Numbers do not need to reflect any particular order. If more than 10 targets were addressed during the month, please provide only those you feel are the 10 most important. If a target was addressed for which there is no option, please number the “other” box, and write in the target.

The list of treatment targets is intended to provide a summary of strengths and needs that are commonly targeted for change during mental health service provision. These problem areas are NOT diagnostic descriptions and the primary targets for treatment may change over time for a particular youth. For example, when treating a youth with an eating disorder, treatment may target eating/feeding behavior at one point, but target medical regimen adherence or positive family functioning on other occasions. These treatment targets are for progress summary purposes and should NOT replace the detailed specification of goals and objectives as part of the treatment planning process.

Definitions of Targets

1. **Academic Achievement** – Issues related to general level or quality of achievement in an educational or academic context. This commonly includes
performance in coursework, and excludes cognitive-intellectual ability/capacity issues (#9) and specific challenges in learning or achievement (#21).

2. **Activity Involvement** – Issues related to general engagement and participation in activities. Only code here those activities that are not better described by the particular activity classes of school involvement (#35), peer involvement (#26), or community involvement (#10).

3. **Aggression** – Verbal and/or physical aggression, or threat thereof, that results in intimidation, physical harm, or property destruction.

4. **Anger** – Emotional experience or expression of agitation or destructiveness directed at a particular object or individual. Common physical feelings include accelerated heartbeat, muscle tension, quicker breathing, and feeling hot.

5. **Anxiety** – A general uneasiness that can be characterized by irrational fears, panic, tension, physical symptoms, excessive anxiety, worry, or fear.

6. **Assertiveness** – The skills or effectiveness of clearly communicating one’s wishes. For example, the effectiveness with which a child refuses unreasonable requests from others, expresses his/her rights in a non-aggressive manner, and/or negotiates to get what s/he wants in their relationships with others.

7. **Attention Problems** – Described by short attention span, difficulty sustaining attention on a consistent basis, and susceptible to distraction by extraneous stimuli.

8. **Avoidance** – Behaviors aimed at escaping or preventing exposure to a particular situation or stimulus.

9. **Cognitive-Intellectual Functioning** – Issues related to cognitive-intellectual ability/capacity and use of those abilities for positive adaptation to the environment. This includes efforts to increase IQ, memory capacity, or abstract problem-solving ability.

10. **Community Involvement** – Issues related to the amount of involvement in specific community activities within the child’s day.

11. **Contentment/Enjoyment/Happiness** – Refers to issues involving the experience and expression of satisfaction, joy, pleasure, and optimism for the future.

12. **Depressed Mood** – Behaviors that can be described as persistent sadness, anxiety, or "empty" mood, feelings of hopelessness, guilt, worthlessness, helplessness, decreased energy, fatigue, etc.

13. **Eating/Feeding Problems** – Knowledge or behaviors involved with the ingestion or consumption of food. May include nutritional awareness, food choice, feeding mechanics (e.g., swallowing, gagging, etc.), and social factors relating with eating situations.

14. **Empathy** – Identifications with and understanding of another person’s situation, feelings, and motives.

15. **Enuresis/Encopresis** – Enuresis refers to the repeated pattern of voluntarily or involuntarily passing urine at inappropriate places during the day or at night in bed or clothes. Encopresis refers to a repeated pattern of voluntarily or involuntarily passing feces at inappropriate places.

16. **Fire Setting** – Intentionally igniting fires.

17. **Gender Identity Problems** – Issues related with a youth’s self-concept or self-understanding involving gender roles and social behaviors in relation to their
biological sex. This does not address self-concept issues involving sexual orientation, which would be coded as “other.”

18. **Grief** – Feelings associated with a loss of contact with a significant person in the youth’s environment (e.g., parent, guardian, friend, etc.).

19. **Health management** – issues related to the improvement or management of one’s health, inclusive of both physical illness and fitness. In addition to dealing with the general development of health-oriented behavior and management of health conditions, this target can also focus on exercise or lack of exercise.

20. **Hyperactivity** – Can be described by fidgeting, squirming in seat, inability to remain seated, talking excessively, difficulty engaging in leisure activities quietly, etc.

21. **Learning Disorder, Underachievement** – Refers to specific challenges with learning or educational performance that are not better accounted for by cognitive-intellectual functioning (#9) or general academic achievement (#1).

22. **Low Self-Esteem** – An inability to identify or accept his/her positive traits or talents, and accept compliments. Verbalization of self-disparaging remarks and viewing him or herself in a negative manner.

23. **Mania** – An inflated self-perception that can be manifested by loud, overly friendly social style that oversteps social boundaries, and high energy and restlessness with a reduced need for sleep.

24. **Medical Regimen Adherence** – Knowledge, attitudes, and behaviors related to regular implementation procedures prescribed by a health care professional. Commonly include lifestyle behaviors (e.g., exercise, nutrition), taking medication, or self-administration of routine assessments (e.g., taking blood samples in a diabetic regimen).

25. **Oppositional/Non-Compliant Behavior** – Behaviors that can be described as refusal to follow adult requests or demands or established rules and procedures (e.g., classroom rules, school rules, etc.).

26. **Peer Involvement** – A greater involvement in activities with peers. Activities could range from academic tasks to recreational activities while involvement could range from working next to a peer to initiating an activity with a peer.

27. **Peer/Sibling Conflict** – Peer and/or sibling relationships that are characterized by fighting, bullying, defiance, revenge, taunting, incessant teasing and other inappropriate behaviors.

28. **Phobia/Fears** – Irrational dread, fear, and avoidance of an object, situation, or activity.

29. **Personal Hygiene** – Challenges related to self-care and grooming.

30. **Positive Family Functioning** – Issues related with healthy communication, problem-solving, shared pleasurable activities, physical and emotional support, etc. in the context of an interaction among multiple persons in a family relation, broadly defined.

31. **Positive Peer Interaction** – Social interaction and communication with peers that are prosocial and appropriate. This differs from peer involvement (#26) in that it focuses on interactional behavior, styles, and intentions, whereas peer involvement targets actual engagement in activities with peers regardless of interactional processes.
32. **Positive Thinking/Attitude** – This target involves clear, healthy, or optimistic thinking, and involves the absence of distortions or cognitive bias that might lead to maladaptive behavior.

33. **Psychosis** – Issues related to atypical thought content (delusions of grandeur, persecution, reference, influence, control, somatic sensations), and/or auditory or visual hallucinations.

34. **Runaway** – Running away from home or current residential placement for a day or more.

35. **School Involvement** – Detailed description of amount of involvement in specific school activities within the child’s scheduled school day.

36. **School Refusal/Truancy** – Reluctance or refusal to attend school without adult permission for the absence. May be associated with school phobia or fear manifested by frequent somatic complaints associated with attending school or in anticipation of school attendance, or willful avoidance of school in the interest of pursuing other activities.

37. **Self-Injurious Behavior** – Acts of harm, violence, or aggression directed at oneself.

38. **Self-Management/Self-Control** – Issues related to management, regulation, and monitoring of one’s own behavior.

39. **Sexual Misconduct** – Issues related with sexual conduct that is defined as inappropriate by the youth’s social environment or that includes intrusion upon or violation of the rights of others.

40. **Shyness** – Social isolation and/or excessive involvement in isolated activities. Extremely limited or no close friendships outside the immediate family members. Excessive shrinking or avoidance of contact with unfamiliar people.

41. **Sleep Disturbance** – Difficulty getting to or maintaining sleep.

42. **Social Skills** – Skills for managing interpersonal interactions successfully. Can include body language, verbal tone, assertiveness, and listening skills, among other areas.

43. **Speech and Language Problems** – Expressive and/or receptive language abilities substantially below expected levels as measured by standardized tests.

44. **Substance Abuse/Substance Use** – Issues related to the use or misuse of a common, prescribed, or illicit substances for altering mental or emotional experience or functioning.

45. **Suicidality** – Issues related to recurrent thoughts, gestures, or attempts to end one’s life.

46. **Traumatic Stress** – Issues related to the experience or witnessing of life events involving actual or threatened death or serious injury to which the youth responded with intense fear, helplessness, or horror.

47. **Treatment Engagement** – The degree to which a family or youth is interested and optimistic about an intervention or plan, such that they act willfully to participate and work toward the success of the plan.

48. **Willful Misconduct/Delinquency** – Persistent failure to comply with rules or expectations in the home, school, or community. Excessive fighting, intimidation of others, cruelty or violence toward people or animals, and/or destruction of property.
Progress Ratings

Please provide a single progress rating for each target selected above (up to 10). Numbers 1 through 10 in the left column refer to the targets selected in the Targets Addressed This Month section above. For example, had you selected “Academic Achievement” above, there would be a “1” in the box to the left of that target on that section. Then, the first row of the Progress Ratings, labeled “1,” is where you would note the progress ratings associated with academic achievement.

Please place a mark (X, ✔) in the column corresponding to your subjective rating of progress associated with this target. When possible, your overall subjective ratings should be informed by a review of objective measures such as any available and relevant questionnaires or behavioral observation data. For example, if a youth receives a T-score of 70 during an intake assessment and the treatment goal is to reduce this score to 60, then if a youth receives a T-score of 65 during a monthly assessment, than 50% progress may be reported [i.e., \(70 – 65 / 70 – 60 = 5 / 10 = 50\%\)]. Or if a youth gets into 10 fights per week initially and the treatment goal is to reduce fighting to 0 fights per week, then during a month in which the youth was fighting only 3 times per week, that would reflect 70% progress [i.e., \(10 – 3 / 10 – 0 = 7 / 10 = 70\%\)].

**Anchors refer to changes from baseline or beginning of services for that target.** Thus, a youth who had reached 90% of an initial goal would receive a rating of “significant improvement.” If that progress were to decline to 70% in the following month, the youth would then get a rating of “moderate improvement” for that target for that month (not “deterioration”). “Deterioration” refers to when a target gets worse from the time it was initially addressed. If there is a break in addressing a specific target (e.g., a target is addressed, then not addressed for a month, then addressed again in a later month), use the initial baseline from the first time as the point of comparison. Only when there is a break in the complete episode of care (i.e., discharge followed by later admission), should that reset the baseline for a given target.

If a goal is reached (improvement is complete), the provider may choose to note the date in the rightmost column. This implies that the target is no longer being addressed. Targets that are not complete should be rated again on the following month’s summary form.

Intervention Strategies

Please place a mark (X, ✔) to the left of any intervention strategies used during the past month. There is no limit to how many may be checked. If strategies were employed that are not in the following list of definitions, please mark the “other” box and write in the strategy used.
Definitions of Intervention Strategies

1. **Activity Scheduling** - The assignment or request that a child participate in specific activities outside of therapy time, with the goal of promoting or maintaining involvement in satisfying and enriching experiences.

2. **Assertiveness Training** - Exercises or techniques designed to promote the child’s ability to be assertive with others, usually involving rehearsal of assertive interactions.

3. **Biofeedback/Neurofeedback** - Strategies to provide information about physiological activity that is typically below the threshold of perception, often involving the use of specialized equipment.

4. **Catharsis** - Strategies designed to bring about the release of intense emotions, with the intent to develop mastery of affect and conflict.

5. **Cognitive/Coping** - Any techniques designed to alter interpretation of events through examination of the child’s reported thoughts, typically through the generation and rehearsal of alternative counter-statements. This can sometimes be accompanied by exercises designed to comparatively test the validity of the original thoughts and the alternative thoughts through the gathering or review of relevant information.

6. **Commands/Limit Setting** - Training for caretakers in how to give directions and commands in such a manner as to increase the likelihood of child compliance.

7. **Communication Skills** - Training for youth or caretakers in how to communicate more effectively with others to increase consistency and minimize stress. Can include a variety of specific communication strategies (e.g., active listening, “I” statements).

8. **Crisis Management** - Immediate problem solving approaches to handle urgent or dangerous events. This might involve defusing an escalating pattern of behavior and emotions either in person or by telephone, and is typically accompanied by debriefing and follow-up planning.

9. **Directed Play** - Exercises involving the youth and caretaker playing together in a specific manner to facilitate their improved verbal communication and nonverbal interaction. Can involve the caretaker’s imitation and participation in the youth’s activity, as well as parent-directed play.

10. **Educational Support** - Exercises designed to assist the child with specific academic problems, such as homework or study skills. This includes tutoring.

11. **Emotional Processing** - A program based on an information processing model of emotion that requires activation of emotional memories in conjunction with new and incompatible information about those memories.

12. **Exposure** - Techniques or exercises that involve direct or imagined experience with a target stimulus, whether performed gradually or suddenly, and with or without the therapist’s elaboration or intensification of the meaning of the stimulus.

13. **Eye Movement/ Tapping** - A method in which the youth is guided through a procedure to access and resolve troubling experiences and emotions, while being exposed to a therapeutic visual or tactile stimulus designed to facilitate bilateral brain activity.
14. Family Engagement-The use of skills and strategies to facilitate family or child’s positive interest in participation in an intervention.

15. Family Therapy-A set of approaches designed to shift patterns of relationship and interactions within a family, typically involving interaction and exercises with the youth, the caretakers, and sometimes siblings.

16. Free Association-Technique for probing the unconscious in which a person recites a running commentary of thoughts and feelings as they occur.

17. Functional Analysis-Arrangement of antecedents and consequences based on a functional understanding of a youth’s behavior. This goes beyond straightforward application of other behavioral techniques.

18. Guided Imagery-Visualization or guided imaginal techniques for the purpose of mental rehearsal of successful performance. Guided imagery for the purpose of physical relaxation (e.g., picturing calm scenery) is not coded here, but rather coded under relaxation (#42).

19. Hypnosis-The induction of a trance-like mental state achieved through suggestion.

20. Ignoring or Differential Reinforcement of Other Behavior-The training of parents or others involved in the social ecology of the child to selectively ignore mild target behaviors and selectively attend to alternative behaviors.

21. Insight Building-Activity designed to help a youth achieve greater self-understanding.

22. Interpretation-Reflective discussion or listening exercises with the child designed to yield therapeutic interpretations. This does not involve targeting specific thoughts and their alternatives, which would be coded as cognitive/coping.

23. Line of Sight Supervision-Direct observation of a youth for the purpose of assuring safe and appropriate behavior.

24. Maintenance/Relapse Prevention-Exercises and training designed to consolidate skills already developed and to anticipate future challenges, with the overall goal to minimize the chance that gains will be lost in the future.

25. Marital Therapy-Techniques used to improve the quality of the relationship between caregivers.

26. Medication/Pharmacotherapy-Any use of psychotropic medication to manage emotional, behavioral, or psychiatric symptoms.

27. Mentoring-Pairing with a more senior and experienced individual who serves as a positive role model for the identified youth.

28. Milieu Therapy-A therapeutic approach in residential settings that involves making the environment itself part of the therapeutic program. Often involves a system of privileges and restrictions such as a token or point system.

29. Mindfulness-Exercises designed to facilitate present-focused, non-evaluative observation of experiences as they occur, with a strong emphasis of being “in the moment.” This can involve the youth’s conscious observation of feelings, thoughts, or situations.

30. Modeling-Demonstration of a desired behavior by a therapist, confederates, peers, or other actors to promote the imitation and subsequent performance of that behavior by the identified youth.
31. **Motivational Interviewing**—Exercises designed to increase readiness to participate in additional therapeutic activity or programs. These can involve cost-benefit analysis, persuasion, or a variety of other approaches.

32. **Natural and Logical Consequences**—Training for parents or teachers in (a) allowing youth to experience the negative consequences of poor decisions or unwanted behaviors, or (b) delivering consequences in a manner that is appropriate for the behavior performed by the youth.

33. **Parent Coping**—Exercises or strategies designed to enhance caretakers’ ability to deal with stressful situations, inclusive of formal interventions targeting one or more caretaker.

34. **Parent-Monitoring**—The repeated measurement of some target index by the caretaker.

35. **Parent Praise**—The training of parents or others involved in the social ecology of the child in the administration of social rewards to promote desired behaviors. This can involve praise, encouragement, affection, or physical proximity.

36. **Peer Modeling/Pairing**—Pairing with another youth of same or similar age to allow for reciprocal learning or skills practice.

37. **Play Therapy**—The use of play as a primary strategy in therapeutic activities. This may include the use of play as a strategy for clinical interpretation. Different from Directed Play (#9), which involves a specific focus on modifying parent-child communication. This is also different from play designed specifically to build relationship quality (#41).

38. **Problem Solving**—Techniques, discussions, or activities designed to bring about solutions to targeted problems, usually with the intention of imparting a skill for how to approach and solve future problems in a similar manner.

39. **Psychoeducational-Child**—The formal review of information with the child about the development of a problem and its relation to a proposed intervention.

40. **Psychoeducational-Parent**—The formal review of information with the caretaker(s) about the development of the child’s problem and its relation to a proposed intervention. This often involves an emphasis on the caretaker’s role in either or both.

41. **Relationship/Rapport Building**—Strategies in which the immediate aim is to increase the quality of the relationship between the youth and the therapist. Can include play, talking, games, or other activities.

42. **Relaxation**—Techniques or exercises designed to induce physiological calming, including muscle relaxation, breathing exercises, meditation, and similar activities. Guided imagery exclusively for the purpose of physical relaxation is also coded here.

43. **Response Cost**—Training parents or teachers how to use a point or token system in which negative behaviors result in the loss of points or tokens for the youth.

44. **Response Prevention**—Explicit prevention of a maladaptive behavior that typically occurs habitually or in response to emotional or physical discomfort.

45. **Self-Monitoring**—The repeated measurement of some target index by the child.

46. **Self-Reward/Self-Praise**—Techniques designed to encourage the youth to self-administer positive consequences contingent on performance of target behaviors.
47. **Skill Building**—The practice or assignment to practice or participate in activities with the intention of building and promoting talents and competencies.

48. **Social Skills Training**—Providing information and feedback to improve interpersonal verbal and non-verbal functioning, which may include direct rehearsal of the skills. If this is paired with peer pairing (#36), that should be coded as well.

49. **Stimulus/Antecedent Control**—Strategies to identify specific triggers for problem behaviors and to alter or eliminate those triggers in order to reduce or eliminate the behavior.

50. **Supportive Listening**—Reflective discussion with the child designed to demonstrate warmth, empathy, and positive regard, without suggesting solutions or alternative interpretations.

51. **Tangible Rewards**—The training of parents or others involved in the social ecology of the child in the administration of tangible rewards to promote desired behaviors. This can involve tokens, charts, or record keeping, in addition to first-order reinforcers.

52. **Therapist Praise/Rewards**—The administration of tangible (i.e., rewards) or social (e.g., praise) reinforcers by the therapist.

53. **Thought Field Therapy**—Techniques involving the tapping of various parts of the body in particular sequences or "algorithms" in order to correct unbalanced energies, known as thought fields.

54. **Time Out**—The training of or the direct use of a technique involving removing the youth from all reinforcement for a specified period of time following the performance of an identified, unwanted behavior.

55. **Twelve-step Programming**—Any programs that involve the twelve-step model for gaining control over problem behavior, most typically in the context of alcohol and substance use, but can be used to target other behaviors as well.

For medication interventions please list each psychiatric medication the youth is taking (e.g., Adderall ER), describe the prescribed total daily dose for each medication (e.g., 30 mg.), identify the prescribed dose schedule (e.g., 2x/week, 3x/day, 15-10-5/day, etc.), place a check mark in the appropriate box if there was a change in the medication or regimen during the reporting month, and provide a description of the change on the line to the right (e.g., new medication, daily dosage change from 10 to 30 mg, change in dose schedule from 5-5/day to 10-10-10/day, etc.).

For **Projected End Date**, please indicate the expected date for termination of the services for which this form was completed.

For **Discharged During Month** please indicate if the youth was discharged from your program during the reporting month. If the youth was discharged, please indicate the Living Situation that the youth was entering upon discharge and the **Reason for Discharge**. For **Projected End Date**, please indicate the expected date for termination of the services for which this form was completed.
Living Situation upon Discharge

Please place a mark (X, ✓) to the left of statement that best describes the type of living environment in which the youth was expected to reside at the time of discharge. Please select only one option. If the youth’s living situation at discharge is not well described by the following list of definitions, please mark the “other” box and write in the youth’s living situation.

1. **Home** - Youth to live in a house, apartment, trailer, hotel, dorm, barrack, and/or single room occupancy. This excludes situations better characterized as foster homes.

2. **Foster Home** - Youth to reside in a foster home or therapeutic foster home. A foster home is a home that is licensed to provide foster care to children, adolescents, and/or adults.

3. **Group Care** - Youth to reside in a group care facility. This level of care may include a group home, therapeutic group home, or board and care. This excludes community-based residential and hospital-based residential care.

4. **Residential Treatment** - Youth to reside in a community-based residential treatment, rehabilitation center, or other residential treatment that is not better characterized as a group home or institution/hospital facility. An organization, not licensed as a psychiatric hospital, whose primary purpose is the provision of individually planned programs of mental health treatment services in conjunction with residential care for children and youth. The services are provided in facilities that are certified by state or federal agencies or through a national accrediting agency.

5. **Institutional/Hospital** - Youth resides in an institutional care or hospital-based residential care facility with care provided on a 24 hour, 7 day a week basis. This level of care may include a skilled nursing/intermediate care facility, nursing homes, institutes of mental disease, inpatient psychiatric hospital, psychiatric health facility, Veterans Affairs hospital, or state hospital.

6. **Jail/Correctional Facility** - Youth resides in a Jail and/or Correctional facility with care provided on a 24 hour, 7 day a week basis. This level of care may include a jail, correctional facility, detention centers, prison, youth authority facility, juvenile hall, boot camp, or boys ranch.

7. **Homeless/Shelter** - A youth is considered homeless if s/he lacks a fixed, regular, and adequate nighttime residence or his/her primary nighttime residency is a supervised publicly or privately operated shelter designed to provide temporary living accommodations, an institution that provides a temporary residence for individuals intended to be institutionalized, or a public or private place not designed for, or ordinarily used as, a regular sleeping accommodation for human beings (e.g., on the street). Youth who were discharged due to extended runaway or elopement episode should be recorded in this category.

**Reason(s) for Discharge**

Please place a mark (X, ✓) to the left of each statement that describes the reasons for
discharging youth from the program during the reporting month. There is no limit to how many may be checked. If the discharge reason is not well characterized by the following list of definitions, please mark the “other” box and write in the reason.

1. **Success/Goals Met**-Youth was clinically discharged due to sufficient treatment progress (e.g., symptoms reduced, functioning improved), treatment goals were met, youth was evaluated and services were determined unnecessary, services were completed, or youth was moving to a less restrictive and intensive level of care.

2. **Insufficient Progress**-Youth was discharged from service without showing sufficient treatment progress to be judged as clinically successful (i.e., little symptom reduction, improvement in functioning, or goal attainment was achieved).

3. **Family Relocation**-Youth was discharge because the youth and family moved out of state or out of the service area.

4. **Runaway/Elopement**-Youth was discharged in association with an extended period of unavailability for treatment because the youth had runaway from home or eloped from the program.

5. **Refuse/Withdraw**-Youth was discharged due to parental refusal, non-participation in treatment, lack of consent, or other indication that client withdrew from services against professional advice.

6. **Eligibility Change**-Youth was discharged in association with a change in eligibility for services, such as a termination of a court order or commitment, aging out of child and adolescent services, loss of Medicaid insurance, etc.

Please provide any other Comments or Suggestions for the youth’s care coordinator you think would be important.

If scores are available on any of the Outcome Measures recommended in the Interagency Practice Guidelines, please provide them along with dates in the optional section provided. Include whether or not youth was arrested during the past month, and an estimate of the percentage of school days that were attended. If school is attended in a residential setting, this counts toward the percentage of days attended.

For the CAFAS, the numbered spaces refer to the following scales: 1-School, 2-Home, 3-Community, 4-Behavior Towards Others, 5-Moods/Emotions, 6-Self-Harm, 7-Substance, 8-Thinking. “Total” refers to the sum of these 8 scales.

Please write the name of the agency including location (e.g., Maui, Big Island) and name of the clinicians (along with CAMHMIS ID#) and provider, along with appropriate signatures of the clinician completing the form and the qualified supervisor. Note the date that the form was submitted electronically to CAMHD and provide name of Care Coordinator.
Appendix C: Mapping Targets to DSM-IV-TR Criteria Coding Instructions and Form

Coding Instructions

PLEASE READ ALL DIRECTIONS CLOSELY!

Using the definitions provided for each treatment target appearing on the Monthly Treatment Progress Summary (MTPS) and the diagnostic criteria listed in the DSM-IV-TR, please code all MTPS treatment targets to the four diagnostic families of interest in this study (i.e., disruptive behavior, ADHD, depressive, or anxiety disorders) using the following criteria.

Please read all target definitions and DSM criteria carefully. Treatment targets are given brief titles that do not always adequately convey their intended meaning, so it is especially important to fully read their definitions.

Coding Criteria

Mark a target “present” in a given diagnostic category only if:

- the target definition closely aligns with at least one of the diagnostic criteria listed in the DSM for at least one of the disorders in that category
- OR if, based on the target definition, you believe it directly addresses a specific diagnostic symptom

Be sure to mark targets “present” only if they align with, or directly target, a specific symptom criterion in the DSM. Deep level inferences about the meaning or relatedness of a target to a diagnostic group should be avoided.

A target may be coded to more than one diagnostic group if it is closely related to each. However, always attempt to code targets into the fewest number of categories while still maintaining accuracy. In other words, do not “reach” to make a target fit into a diagnostic group.

Do not code a target “present” if it is only broadly applicable to a diagnostic area. Targets may also be coded as “absent” from all categories.
Marking the Coding Sheet

If you believe a target is “present” in a given diagnostic category, mark “1.”
If you believe a target is “absent” in a given diagnostic category, mark “0.”

In the two columns at the far right of the coding sheets, indicate the abbreviation of the disorder and the symptom letter (and number, if applicable) of the symptom criteria you believe the target aligns with. (See example on the coding sheet) Each diagnostic criterion may correspond to multiple targets, and thus can be coded into these final two columns as often as is appropriate.

You may choose to code a target as “present” in more than one diagnostic category. However, whenever you do, you must also rank the categories in order of “best fit” (marking “1” in the target-diagnosis cell of the best fit category, a “2” in the cell of the second best-fit category, and so on). When this occurs, indicate one disorder abbreviation and symptom letter (and/or number) for each of the diagnostic categories you’ve selected.

Continue coding until each target has been marked “present” or “absent” in each of the four diagnostic categories. (In other words, there should be a mark in every cell of the first four columns on the coding sheet.)

Mahalo for your time!
<table>
<thead>
<tr>
<th>Example Target (single category)</th>
<th>DBD</th>
<th>ADHD</th>
<th>Depressive</th>
<th>Anxiety</th>
<th>Dx Abbr</th>
<th>Sxs Letter/#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Achievement</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>SAD</td>
<td>A 8</td>
</tr>
<tr>
<td>Activity Involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adaptive Behavior/Living Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjustment to Change</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aggression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anger</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assertiveness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attention Problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive-Intellectual Functioning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contentment/Enjoyment/ Happiness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressed Mood</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eating/Feeding Problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empathy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enuresis/Encopresis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Setting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender Identity Problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grief</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing/Living Situation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hyperactivity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning Disorder/Underachievement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Self-Esteem</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mania</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Regimen Adherence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupational Functioning/Stress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oppositional/Non-Compliant Behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer Involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer/Sibling Conflict</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phobia/Fears</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Hygiene</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Family Functioning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Peer Interaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Thinking/Attitude</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnancy Education/Adjustment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychosis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Runaway</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disorder</td>
<td>DBD</td>
<td>ADHD</td>
<td>Depressive</td>
<td>Anxiety</td>
<td>Dx Abbr</td>
<td>Sxs Letter/#</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-----</td>
<td>------</td>
<td>------------</td>
<td>---------</td>
<td>---------</td>
<td>--------------</td>
</tr>
<tr>
<td>School Involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Refusal/Truancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self Injurious Behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Management/Self-Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual Misconduct</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shyness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sleep Disturbance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech and Language Problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substance Abuse/Substance Use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicidality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traumatic Stress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment Engagement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Willful Misconduct/Delinquency</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Definitions of MTPS Treatment Targets

[List of target titles and definitions as they appear in the “Definitions of Targets” section of the MTPS Instructions and Codebook in Appendix B.]

DSM-IV-TR Diagnostic Criteria Summary

Disruptive Behavior Disorders

Oppositional Defiant Disorder (ODD)

A. A pattern of negativistic, hostile, and defiant behavior lasting at least 6 months, during which four (or more) of the following are present:

1. Often loses temper
2. Often argues with adults
3. Often actively defies or refuses to comply with adults' requests or rules
4. Often deliberately annoys people
5. Often blames others for his or her mistakes or misbehavior
6. Is often touchy or easily annoyed by others
7. Is often angry and resentful
8. Is often spiteful or vindictive

Conduct Disorder (CD)

A. A repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated, with at least one criterion present in the past 6 months:

Aggression to people and animals:

1. Often bullies, threatens, or intimidates others
2. Often initiates physical fights
3. Has used a weapon that can cause serious physical harm to others (e.g., bat, brick, broken bottle, knife, gun)
4. Has been physically cruel to people
5. Has been physically cruel to animals
6. Has stolen while confronting a victim (e.g., mugging, purse snatching, extortion, armed robbery)
7. Has forced someone into sexual activity

B. Destruction of property:

1. Has deliberately engaged in fire setting with the intention of causing serious damage
2. Has deliberately destroyed others' property (other than by fire setting)

C. Deceitfulness or theft:

1. Has broken into someone else's house, building, or car
2. Often lies to obtain goods or favors or to avoid obligations (i.e., "cons" others)
3. Has stolen items of nontrivial value without confronting a victim (e.g., shoplifting, but without breaking and entering; forgery)

D. Serious violations of rules:

1. Often stays out at night despite parental prohibitions, beginning before age 13
2. Has run away from home overnight at least twice while living in parental or parental surrogate home (or once without returning for a lengthy period)
3. Often truant from school, beginning before age 13 years

Attention-Deficit Hyperactivity Disorder (ADHD)

A. Six or more of the following symptoms of inattention persisting for at least 6 months:

1. Often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
2. Often has difficulty sustaining attention in tasks or play activities
3. Often does not seem to listen when spoken to directly
4. Often does not follow through on instructions and fails to finish school work, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions)
5. Often has difficulty organizing tasks and activities
6. Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
7. Often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)
8. Is often easily distracted by extraneous stimuli
9. Is often forgetful in daily activities

B. Six or more of the following symptoms of hyperactivity-impulsivity:

1. Often fidgets with hands or feet or squirms in seat
2. Often leaves seat in classroom or in other situations in which remaining seated is expected
3. Often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective
feelings of restlessness)
4. Often has difficulty playing or engaging in leisure activities quietly
5. Is often "on the go" or acts as if "driven by a motor"
6. Often talks excessively
7. Often blurts out answers before questions have been completed
8. Often has difficulty awaiting turn
9. Often interrupts or intrudes on others (e.g., butts into conversations or games)

**Depressive Disorders**

**Dysthyemic Disorder (DD)**

A. Depressed mood for most of the day, for more days than not, as indicated either by subjective account or observation by others, for at least 2 years. **Note:** In children and adolescents, mood can be irritable and duration must be at least 1 year.

B. Presence, while depressed, of two (or more) of the following:

1. Poor appetite or overeating
2. Insomnia or hypersomnia
3. Low energy or fatigue
4. Low self-esteem
5. Poor concentration or difficulty making decisions
6. Feelings of hopelessness

**Major Depressive Disorder (MDD)**

A. **Major Depressive Episode**

1. Depressed or irritable mood most of the day, nearly every day (e.g., feels sad or empty; appears tearful)
2. Markedly diminished interest or pleasure in all, or most all, activities
3. Significant weight loss when dieting or weight gain (a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. **Note:** in children, consider failure to make expected weight gains.
4. Insomnia or hypersomnia
5. Psychomotor agitation or retardation nearly every day (not merely subjective feelings of restlessness or being slowed down)
6. Fatigue or loss of energy nearly every day
7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) (not merely self-reproach or guilt about being sick)
8. Diminished ability to think or concentrate, or indecisiveness, nearly every day
9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal
ideation without a specific plan, or a suicide attempt or specific plan for committing suicide

**Anxiety Disorders**

**Generalized Anxiety Disorder (GAD)**

A. Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance).

B. The person finds it difficult to control the worry.

C. The anxiety and worry are associated with three (or more) of the following six symptoms (with at least some symptoms present for more days than not for the past 6 months). **Note:** Only one item is required in children.

1. Restlessness or feeling keyed up or on edge
2. Being easily fatigued
3. Difficulty concentrating or mind going blank
4. Irritability
5. Muscle tension
6. Sleep disturbance (difficulty falling or staying asleep, or restless unsatisfying sleep)

**Obsessive-Compulsive Disorder (OCD)**

**A. Obsessions**

1. Recurrent and persistent thoughts, impulses, or images that are experienced, at some time during the disturbance, as intrusive and inappropriate and that cause marked anxiety or distress
2. The thoughts, impulses, or images are not simply excessive worries about real-life problems
3. The person attempts to ignore or suppress such thoughts, impulses, or images, or to neutralize them with some other thought or action
4. The person recognizes that the obsessional thoughts, impulses, or images are a product of his or her own mind

**B. Compulsions**

1. Repetitive behaviors (e.g., hand washing, ordering, checking) or mental acts (e.g., praying, counting, repeating words silently) that the person feels driven to perform in response to an obsession, or according to rules that must be applied rigidly
2. The behaviors or mental acts are aimed at preventing or reducing distress or preventing some dreaded event or situation; however, these behaviors or mental acts either are not connected in a realistic way with what they
are designed to neutralize or prevent or are clearly excessive

C. Disorder criteria

1. The presence of either obsessions or compulsions
2. At some point during the course of the disorder, the person has recognized that the obsessions or compulsions are excessive or unreasonable. **Note:** This does not apply to children.
3. The obsessions or compulsions cause marked distress, are time consuming (take more than 1 hour a day), or significantly interfere with the person's normal routine, occupational (or academic) functioning, or usual social activities or relationships.

**Panic Disorders (PD)**

**A. Panic Attack**

1. Palpitations, pounding heart, or accelerated heart rate
2. Sweating
3. Trembling or shaking
4. Sensations of shortness of breath or smothering
5. Feeling of choking
6. Chest pain or discomfort
7. Nausea or abdominal distress
8. Feeling dizzy, unsteady, lightheaded, or faint
9. Derealization (feelings of unreality) or depersonalization (being detached from oneself)
10. Fear of losing control or going crazy
11. Fear of dying
12. Paresthesias (numbness or tingling sensations)
13. Chills or hot flushes

**B. Agoraphobia**

1. Anxiety about being in places or situations in which escape might be difficult or embarrassing or in which help may not be available in the event of having an unexpected or situationally predisposed Panic Attack or panic-like symptoms. Agoraphobic fears typically involve characteristic clusters of situations that include being outside the home alone; being in a crowd or standing in line; being on a bridge; and traveling in a bus, train, or automobile.

2. The situations are avoided (e.g., travel is restricted) or else are endured with marked distress or with anxiety about having a Panic Attack or panic-like symptoms, or require the presence of a companion.

**C. Panic Disorder criteria (with or without Agoraphobia)**

1. Recurrent unexpected Panic Attacks
2. Attacks are followed by one or more of the following:
a. Persistent concern about having additional attacks
b. Worry about the implications of the attack or its consequences (e.g., losing control, having a heart attack, "going crazy")
c. a significant change in behavior related to the attacks

3. The presence of Agoraphobia (*absent for Panic Disorder without Agoraphobia*)

**Posttraumatic Stress Disorder (PTSD)**

A. The person has been exposed to a traumatic event in which both of the following were present:
   1. The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others
   2. The person's response involved intense fear, helplessness, or horror. **Note:** In children, this may be expressed instead by disorganized or agitated behavior

B. The traumatic event is persistently re-experienced in one (or more) of the following ways:
   1. Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions. **Note:** In young children, repetitive play may occur in which themes or aspects of the trauma are expressed.
   2. Recurrent distressing dreams of the event. **Note:** In children, there may be frightening dreams without recognizable content.
   3. Acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur on awakening or when intoxicated). **Note:** In young children, trauma-specific reenactment may occur.
   4. Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event
   5. Physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event

C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following:
   1. Efforts to avoid thoughts, feelings, or conversations associated with the trauma
   2. Efforts to avoid activities, places, or people that arouse recollections of the trauma
   3. Inability to recall an important aspect of the trauma
   4. Markedly diminished interest or participation in significant activities
   5. Feeling of detachment or estrangement from others
6. Restricted range of affect (e.g., unable to have loving feelings)
7. Sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span)

D. Persistent symptoms of increased arousal (not present before the trauma), as indicated by two (or more) of the following:

1. Difficulty falling or staying asleep
2. Irritability or outbursts of anger
3. Difficulty concentrating
4. Hypervigilance
5. Exaggerated startle response

**Acute:** if duration of symptoms is less than 3 months. **Chronic:** if duration of symptoms is 3 months or more

**Acute Stress Disorder (ASD)**

A. The person has been exposed to a traumatic event in which both of the following were present:
   1. The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others
   2. The person's response involved intense fear, helplessness, or horror.

   **Note:** In children, this may be expressed instead by disorganized or agitated behavior

B. Either while experiencing or after experiencing the distressing event, the individual has three (or more) of the following dissociative symptoms:

   1. A subjective sense of numbing, detachment, or absence of emotional responsiveness
   2. A reduction in awareness of his or her surroundings (e.g., "being in a daze")
   3. De-realization
   4. Depersonalization
   5. Dissociative amnesia (i.e., inability to recall an important aspect of the trauma)

C. The traumatic event is persistently re-experienced in at least one of the following ways: recurrent images, thoughts, dreams, illusions, flashback episodes, or a sense of reliving the experience; or distress on exposure to reminders of the traumatic event.

D. Marked avoidance of stimuli that arouse recollections of the trauma (e.g., thoughts, feelings, conversations, activities, places, people).

E. Marked symptoms of anxiety or increased arousal (e.g., difficulty sleeping, irritability, poor concentration, hypervigilance, exaggerated startle response, motor restlessness).
Separation Anxiety Disorder (SAD)

A. Developmentally inappropriate and excessive anxiety concerning separation from home or from those to whom the individual is attached, as evidenced by three (or more) of the following:
   1. Recurrent excessive distress when separation from home or major attachment figures occurs or is anticipated
   2. Persistent and excessive worry about losing, or about possible harm befalling, major attachment figures
   3. Persistent and excessive worry that an untoward event will lead to separation from a major attachment figure (e.g., getting lost or being kidnapped)
   4. Persistent reluctance or refusal to go to school or elsewhere because of fear of separation
   5. Persistently and excessively fearful or reluctant to be alone or without major attachment figures at home or without significant adults in other settings
   6. Persistent reluctance or refusal to go to sleep without being near a major attachment figure or to sleep away from home
   7. Repeated nightmares involving the theme of separation
   8. Repeated complaints of physical symptoms (such as headaches, stomachaches, nausea, or vomiting) when separation from major attachment figures occurs or is anticipated

Selective Mutism (SM)

A. Consistent failure to speak in specific social situations (in which there is an expectation for speaking, e.g., at school) despite speaking in other situations.
B. The disturbance interferes with educational or occupational achievement or with social communication.
C. The failure to speak is not due to a lack of knowledge of, or comfort with, the spoken language is required in the social situation.

Social Phobia (SOP)

A. A marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing.
   Note: In children, there must be evidence of the capacity for age-appropriate social relationships with familiar people and the anxiety must occur in peer settings, not just in interactions with adults.
B. Exposure to the feared social situation almost invariably provokes anxiety, which may take the form of a situationally bound or situationally predisposed Panic Attack.
   Note: In children, the anxiety may be expressed by crying, tantrums, freezing, or shrinking from social situations with unfamiliar people.
C. The person recognizes that the fear is excessive or unreasonable. Note: in children, this feature may be absent.
D. The feared social or performance situations are avoided or else are endured with intense anxiety or distress.

**Specific Phobia (SCP)**
A. Marked and persistent fear that is excessive or unreasonable, cued by the presence or anticipation of a specific object or situation (e.g., flying, heights, animals, receiving an injection, seeing blood).

*Specific types include:*
1. Animal type
2. Natural Environment Type (e.g., heights, storms, water)
3. Blood-Injection-Injury Type
4. Situational Type (e.g., airplanes, elevators, enclosed places)
5. Other (e.g., fear of choking, vomiting, or contracting an illness; in children, fear of loud sounds or costumed characters)

B. Exposure to the phobic stimulus almost invariably provokes an immediate anxiety response, which may take the form of a situationally bound or situationally Panic Attack. Note: In children, the anxiety may be expressed by crying, tantrums, freezing, or clinging.
C. The person recognizes that the fear is excessive or unreasonable. Note: In children, this feature may be absent.
D. The phobic situation(s) is avoided or else is endured with intense anxiety or distress.
E. The avoidance, anxious anticipation, or distress in the feared situation(s) interferes significantly with the person's normal routine, occupational (or academic) functioning, or social activities or relationships, or there is marked distress about having the phobia.
### Appendix D: Table of Outcome Data for All 48 MTPS Treatment Targets

Table 8. **Base Rate, Mean Progress Scores, and Standard Deviations for All 48 MTPS Treatment Targets (Ordered by n Size)**

<table>
<thead>
<tr>
<th>Treatment target</th>
<th>n</th>
<th>%*</th>
<th>Base Rate M (SD)</th>
<th>Mean Progress Scores M (SD)</th>
<th>Rate to Highest M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Peer Interaction</td>
<td>663</td>
<td>83.9</td>
<td>3.62 (1.32)</td>
<td>4.00 (1.79)</td>
<td>4.00 (1.79)</td>
</tr>
<tr>
<td>Oppositional Behavior</td>
<td>565</td>
<td>71.5</td>
<td>3.53 (1.31)</td>
<td>3.87 (1.84)</td>
<td>3.87 (1.84)</td>
</tr>
<tr>
<td>Activity Involvement</td>
<td>523</td>
<td>66.2</td>
<td>3.64 (1.50)</td>
<td>3.69 (1.86)</td>
<td>3.69 (1.86)</td>
</tr>
<tr>
<td>Anger</td>
<td>508</td>
<td>64.3</td>
<td>3.44 (1.27)</td>
<td>3.68 (1.92)</td>
<td>3.68 (1.92)</td>
</tr>
<tr>
<td>Aggression</td>
<td>378</td>
<td>47.9</td>
<td>3.61 (1.40)</td>
<td>3.53 (1.91)</td>
<td>3.53 (1.91)</td>
</tr>
<tr>
<td>Academic Achievement</td>
<td>331</td>
<td>41.9</td>
<td>3.37 (1.62)</td>
<td>2.78 (1.88)</td>
<td>2.78 (1.88)</td>
</tr>
<tr>
<td>Depressed Mood</td>
<td>325</td>
<td>41.1</td>
<td>3.35 (1.35)</td>
<td>3.34 (1.95)</td>
<td>3.34 (1.95)</td>
</tr>
<tr>
<td>Self-Injurious Behavior</td>
<td>318</td>
<td>40.3</td>
<td>3.10 (1.45)</td>
<td>2.73 (1.83)</td>
<td>2.73 (1.83)</td>
</tr>
<tr>
<td>Anxiety</td>
<td>312</td>
<td>39.5</td>
<td>3.12 (1.40)</td>
<td>3.22 (1.89)</td>
<td>3.22 (1.89)</td>
</tr>
<tr>
<td>Contentment/Happiness</td>
<td>311</td>
<td>39.4</td>
<td>3.61 (1.24)</td>
<td>3.01 (1.92)</td>
<td>3.01 (1.92)</td>
</tr>
<tr>
<td>Positive Thinking/Attitude</td>
<td>302</td>
<td>38.2</td>
<td>3.45 (1.27)</td>
<td>3.06 (1.91)</td>
<td>3.06 (1.91)</td>
</tr>
<tr>
<td>Treatment Engagement</td>
<td>295</td>
<td>37.3</td>
<td>3.75 (1.54)</td>
<td>2.65 (1.73)</td>
<td>2.65 (1.73)</td>
</tr>
<tr>
<td>Peer or Sibling Conflict</td>
<td>279</td>
<td>35.3</td>
<td>3.19 (1.33)</td>
<td>2.88 (1.84)</td>
<td>2.88 (1.84)</td>
</tr>
<tr>
<td>Social Skills</td>
<td>275</td>
<td>34.8</td>
<td>3.40 (1.31)</td>
<td>3.09 (1.96)</td>
<td>3.09 (1.96)</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>271</td>
<td>34.3</td>
<td>2.91 (1.17)</td>
<td>3.03 (1.91)</td>
<td>3.03 (1.91)</td>
</tr>
<tr>
<td>Phobias or Fears</td>
<td>224</td>
<td>28.4</td>
<td>3.35 (1.30)</td>
<td>2.53 (1.87)</td>
<td>2.53 (1.87)</td>
</tr>
<tr>
<td>Attention Problems</td>
<td>207</td>
<td>26.2</td>
<td>2.97 (1.24)</td>
<td>2.92 (1.93)</td>
<td>2.92 (1.93)</td>
</tr>
<tr>
<td>School Involvement</td>
<td>198</td>
<td>25.1</td>
<td>3.36 (1.53)</td>
<td>2.33 (1.78)</td>
<td>2.33 (1.78)</td>
</tr>
<tr>
<td>Avoidance</td>
<td>196</td>
<td>24.8</td>
<td>2.74 (1.35)</td>
<td>2.67 (1.78)</td>
<td>2.67 (1.78)</td>
</tr>
<tr>
<td>Substance Use</td>
<td>188</td>
<td>23.8</td>
<td>3.58 (1.88)</td>
<td>3.34 (1.94)</td>
<td>3.34 (1.94)</td>
</tr>
<tr>
<td>Community Involvement</td>
<td>177</td>
<td>22.4</td>
<td>3.26 (1.52)</td>
<td>2.15 (1.56)</td>
<td>2.15 (1.56)</td>
</tr>
</tbody>
</table>

* Total ≠ 100% owing to multiple targets per youth. a Targets mapped to the disruptive behaviors disorders group. b Targets mapped to the mood disorders group. c Targets mapped to the anxiety disorders group. d Targets mapped to the ADHD group.
<table>
<thead>
<tr>
<th>Treatment target</th>
<th>n</th>
<th>%*</th>
<th>Highest Level</th>
<th>Rate to Highest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>M (SD) 95% CI</td>
<td>M (SD) 95% CI</td>
</tr>
<tr>
<td>School Attend/Truancy^</td>
<td>165</td>
<td>20.9</td>
<td>3.26 [3.99, 3.52]</td>
<td>2.93 [2.64, 3.23]</td>
</tr>
<tr>
<td>Willful Misconduct^</td>
<td>142</td>
<td>18.0</td>
<td>2.90 [2.60, 3.21]</td>
<td>2.52 [2.22, 2.82]</td>
</tr>
<tr>
<td>Peer Involvement</td>
<td>135</td>
<td>17.1</td>
<td>2.88 [2.63, 3.12]</td>
<td>2.07 [1.81, 2.34]</td>
</tr>
<tr>
<td>Assertiveness</td>
<td>127</td>
<td>16.1</td>
<td>3.31 [3.08, 3.55]</td>
<td>2.71 [2.39, 3.03]</td>
</tr>
<tr>
<td>Empathy</td>
<td>119</td>
<td>15.1</td>
<td>2.84 [2.58, 3.11]</td>
<td>2.49 [2.17, 2.81]</td>
</tr>
<tr>
<td>Runaway^</td>
<td>116</td>
<td>14.7</td>
<td>3.62 [3.23, 4.01]</td>
<td>2.58 [2.27, 2.89]</td>
</tr>
<tr>
<td>Cog/Intellect. Functioning</td>
<td>100</td>
<td>12.7</td>
<td>2.55 [2.32, 2.78]</td>
<td>2.62 [2.25, 2.99]</td>
</tr>
<tr>
<td>Positive Family Function</td>
<td>98</td>
<td>12.4</td>
<td>2.93 [2.60, 3.25]</td>
<td>2.71 [2.32, 3.11]</td>
</tr>
<tr>
<td>Self-Management/Control</td>
<td>93</td>
<td>11.8</td>
<td>3.31 [2.94, 3.68]</td>
<td>2.27 [1.94, 2.60]</td>
</tr>
<tr>
<td>Medical Regimen Adhere</td>
<td>87</td>
<td>11.0</td>
<td>3.56 [3.17, 3.96]</td>
<td>2.51 [2.12, 2.89]</td>
</tr>
<tr>
<td>Hyperactivity^d</td>
<td>86</td>
<td>10.9</td>
<td>3.08 [2.78, 3.35]</td>
<td>2.79 [2.38, 3.20]</td>
</tr>
<tr>
<td>Traumatic Stress^c</td>
<td>78</td>
<td>9.8</td>
<td>2.94 [2.64, 3.25]</td>
<td>2.58 [2.15, 3.00]</td>
</tr>
<tr>
<td>Grief</td>
<td>66</td>
<td>8.4</td>
<td>2.85 [2.51, 3.19]</td>
<td>2.27 [1.82, 2.73]</td>
</tr>
<tr>
<td>Health Management</td>
<td>66</td>
<td>8.4</td>
<td>3.44 [3.07, 3.81]</td>
<td>2.59 [2.12, 3.06]</td>
</tr>
<tr>
<td>Personal Hygiene</td>
<td>45</td>
<td>5.7</td>
<td>2.77 [2.34, 3.19]</td>
<td>2.51 [1.97, 3.06]</td>
</tr>
<tr>
<td>Suicidality^b</td>
<td>44</td>
<td>5.6</td>
<td>3.41 [2.75, 4.07]</td>
<td>2.25 [1.72, 2.78]</td>
</tr>
<tr>
<td>Learning Disorder</td>
<td>41</td>
<td>5.2</td>
<td>2.63 [2.21, 3.06]</td>
<td>2.17 [1.60, 2.74]</td>
</tr>
<tr>
<td>Eating/Feeding Probs</td>
<td>33</td>
<td>4.2</td>
<td>2.64 [2.05, 3.22]</td>
<td>2.42 [1.74, 3.11]</td>
</tr>
<tr>
<td>Sexual Misconduct^a</td>
<td>31</td>
<td>3.9</td>
<td>2.81 [2.11, 3.51]</td>
<td>3.13 [2.38, 3.87]</td>
</tr>
<tr>
<td>Sleep Hygiene^b</td>
<td>26</td>
<td>3.3</td>
<td>2.87 [2.30, 3.43]</td>
<td>2.23 [1.57, 2.89]</td>
</tr>
<tr>
<td>Shyness^c</td>
<td>23</td>
<td>2.9</td>
<td>2.41 [2.30, 3.43]</td>
<td>2.48 [1.72, 3.24]</td>
</tr>
<tr>
<td>Psychosis</td>
<td>18</td>
<td>2.3</td>
<td>2.44 [1.42, 3.48]</td>
<td>2.22 [1.43, 3.01]</td>
</tr>
</tbody>
</table>

* Total ≠ 100% owing to multiple targets per youth. ^ Targets mapped to the disruptive behaviors disorders group. ~ Targets mapped to the mood disorders group. g Targets mapped to the anxiety disorders group. d Targets mapped to the ADHD group.
Table 8. (continued)

<table>
<thead>
<tr>
<th>Treatment target</th>
<th>N</th>
<th>%</th>
<th>Highest Level</th>
<th>Rate to Highest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>95% CI</td>
<td>95% CI</td>
</tr>
<tr>
<td>Gender Identify Problems</td>
<td>15</td>
<td>1.9</td>
<td>2.57 (1.27)</td>
<td>2.53 (1.81)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>[1.87, 3.27]</td>
<td>[1.53, 3.53]</td>
</tr>
<tr>
<td>Mania</td>
<td>14</td>
<td>1.8</td>
<td>2.36 (1.74)</td>
<td>2.00 (1.62)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>[1.35, 3.36]</td>
<td>[1.07, 2.93]</td>
</tr>
<tr>
<td>Firesetting(a)</td>
<td>4</td>
<td>0.5</td>
<td>2.25 (2.63)</td>
<td>1.25 (0.5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>[-1.93, 6.43]</td>
<td>[0.45, 2.05]</td>
</tr>
<tr>
<td>Speech/Language</td>
<td>2</td>
<td>0.3</td>
<td>2.25 (2.47)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>[-19.99, 24.29]</td>
<td>--</td>
</tr>
<tr>
<td><strong>Grand</strong></td>
<td>790</td>
<td>100</td>
<td>3.10 (0.42)</td>
<td>2.70 (0.58)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>[2.98, 3.22]</td>
<td>[2.53, 2.87]</td>
</tr>
</tbody>
</table>

* Total ≠ 100% owing to multiple targets per youth. \(a\) Targets mapped to the disruptive behaviors disorders group. \(b\) Targets mapped to the mood disorders group. \(c\) Targets mapped to the anxiety disorders group. \(d\) Targets mapped to the ADHD group.

\(†\) Due to small \(n\) size and skew, confidence intervals for these targets fell outside of acceptable ranges.
References


